



Welcome to
**Agricultural
Stormwater Training**

June 27th, 2023

2:00 – 4:30 PM Presentations

4:30-5:30 PM Q&A Session

*This is a recorded webinar.

Housekeeping

- **Recorded** Presentations 2-4:30 PM
 - meets Ag Order annual 2 hr. training requirement
 - meets AWQ annual stormwater training requirement
- Sign-in (Virtual attendees enter name in chat)
- Handouts – virtual attendees enter email in chat
- Restrooms
- Food/Drink
- Q&A Session (not recorded) 4:30-5:30 PM
- Questions/Ideas/Topics? QIT box

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Agenda



Agricultural Water Quality (AWQ) Program Presentation [30 min]



Region 9 Water Quality Control Board (Water Board) Presentation [30 min]



University of California Cooperative Extension (UCCE) Presentation [20 min]

← 10-minute break



Natural Resources Conservation Service (NRCS) Presentation [30 min]



Agricultural Pesticides Presentation [30 min]

← 10-minute break



Q&A Session [until 5:30 PM]



Agricultural Water Quality (AWQ) Program Presentation

Kimberly Greene, Kimberly.Greene@sdcounty.ca.gov, (858) 239-8414

Agricultural Stormwater Training Event

Background/Purpose

- Share information on relevant agricultural water quality **regulatory programs**
- Review common **best management practices (BMPs)** relevant to agriculture in our region
- Provide an opportunity for farmers to fulfil annual 2-hour Ag Order/irrigated lands group continuing education requirement while also covering the BMP topics required to fulfil the Department of Agriculture/Weights & Measures' Agricultural Water Quality (AWQ) Program annual **stormwater training requirement**

Please sign in to receive credit, and for those completing the AWQ training, be sure to fill out the training form that is in your packets and keep it for future use.

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HISTORY OF WATER QUALITY LAWS AND REGULATIONS

SDRILG Seminar Presented by:
Dr. Valerie Mellano & Dr. Gerry Spinelli

<https://www.youtube.com/watch?v=chloaxO4Lxo>

Clean Water Act (CWA)



National Pollutant Discharge Elimination System (NPDES)



Municipal Separate Storm Sewer System (MS4) Permit



San Diego County
(unincorporated)

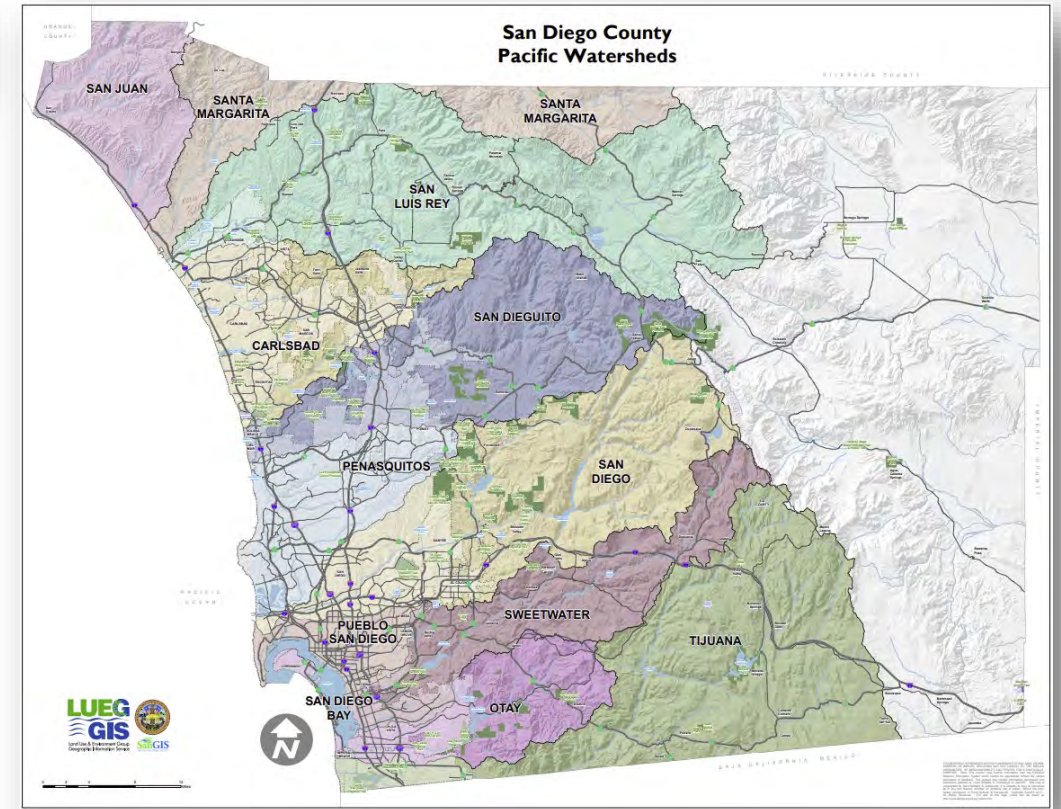
Other jurisdictions
(incorporated cities)

The 21 jurisdictions with MS4 Permit
stormwater programs contact information can
be found on the Project Clean Water website.
<https://projectcleanwater.org/contact-us/>



Agricultural Water Quality (AWQ) Program

- Inspection program is to ensure commercial agriculture operations are implementing Best Management Practices (BMPs) to prevent pollution to stormwater flows and downstream County-maintained roads, culverts and stormwater conveyances (otherwise referred to as downstream MS4 structures)
- Unincorporated County
- BMPs are any practices that help to prevent pollution, including completing stormwater training



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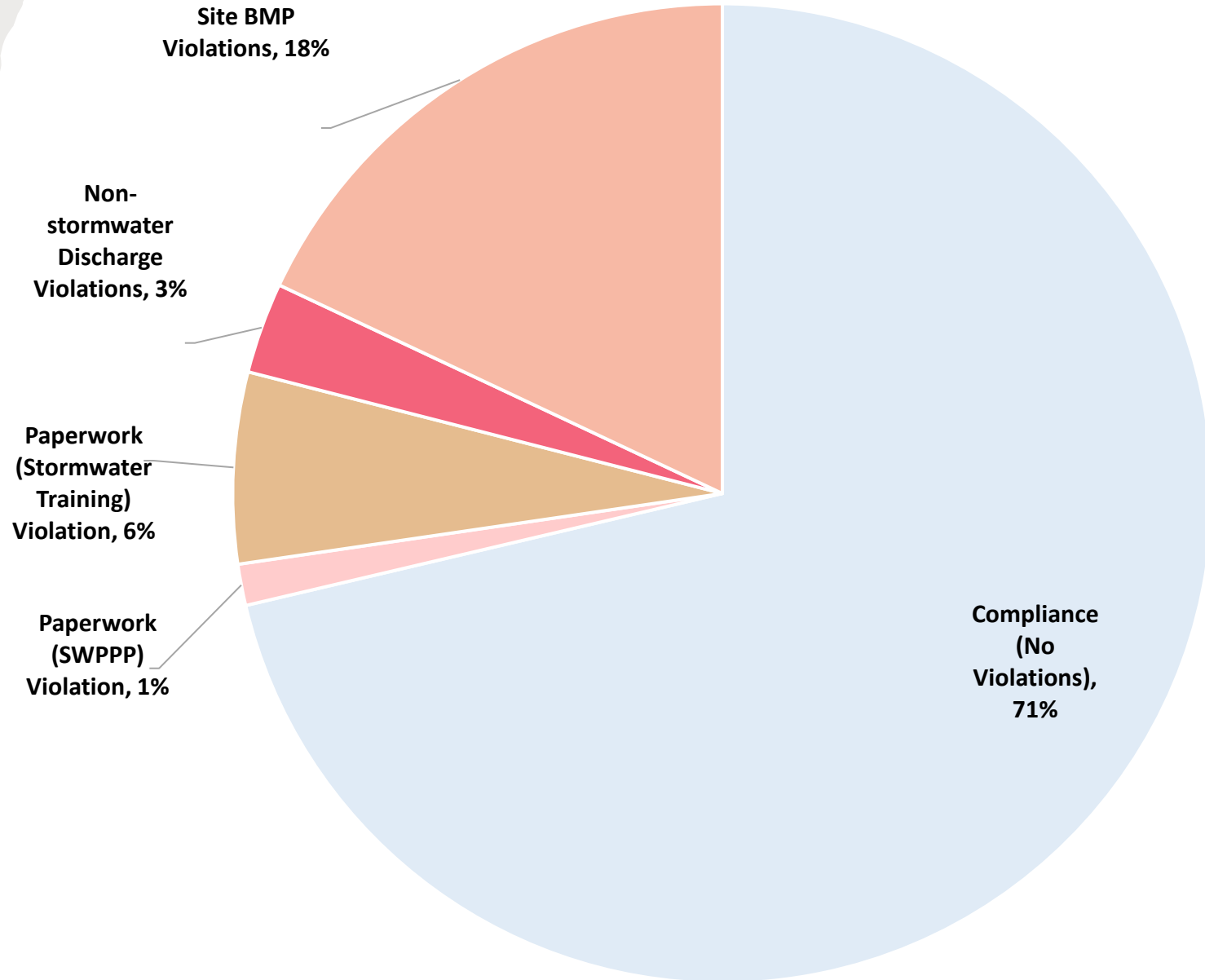


Minimum AWQ Site Requirements

- All sites must prevent non-stormwater discharges (e.g., irrigation runoff, sediment).
- All sites must implement Best Management Practices (BMPs) to prevent pollution (i.e., prevent and/or minimize exposure of potential pollutants to stormwater flows and downstream MS4).
- All sites must complete/document annual stormwater training – required for all staff (e.g., owners, managers, and/or field staff) with responsibility for activities that could result in pollution to water resources.
- A Stormwater Pollution Prevent Plan (SWPPP) **may** be required for some operations with non-compliance history, and for all operations located in the Rainbow Creek Subwatershed (a nutrient-impaired watershed).

AWQ Overall Violation Trends

- Overall Compliance Rate (no violations) 71%
- Overall Non-compliance Rate (violations) 29%:
 - Site BMPs Violations 18%
 - Paperwork Violations 7%
 - Discharge Violations 3%
- Time to Achieve Compliance
 - Before the next rain/<30 days
 - 30-day comments
- Enforcement Approach
 - Education First



AWQ Common Violations

Site BMPs (18%)

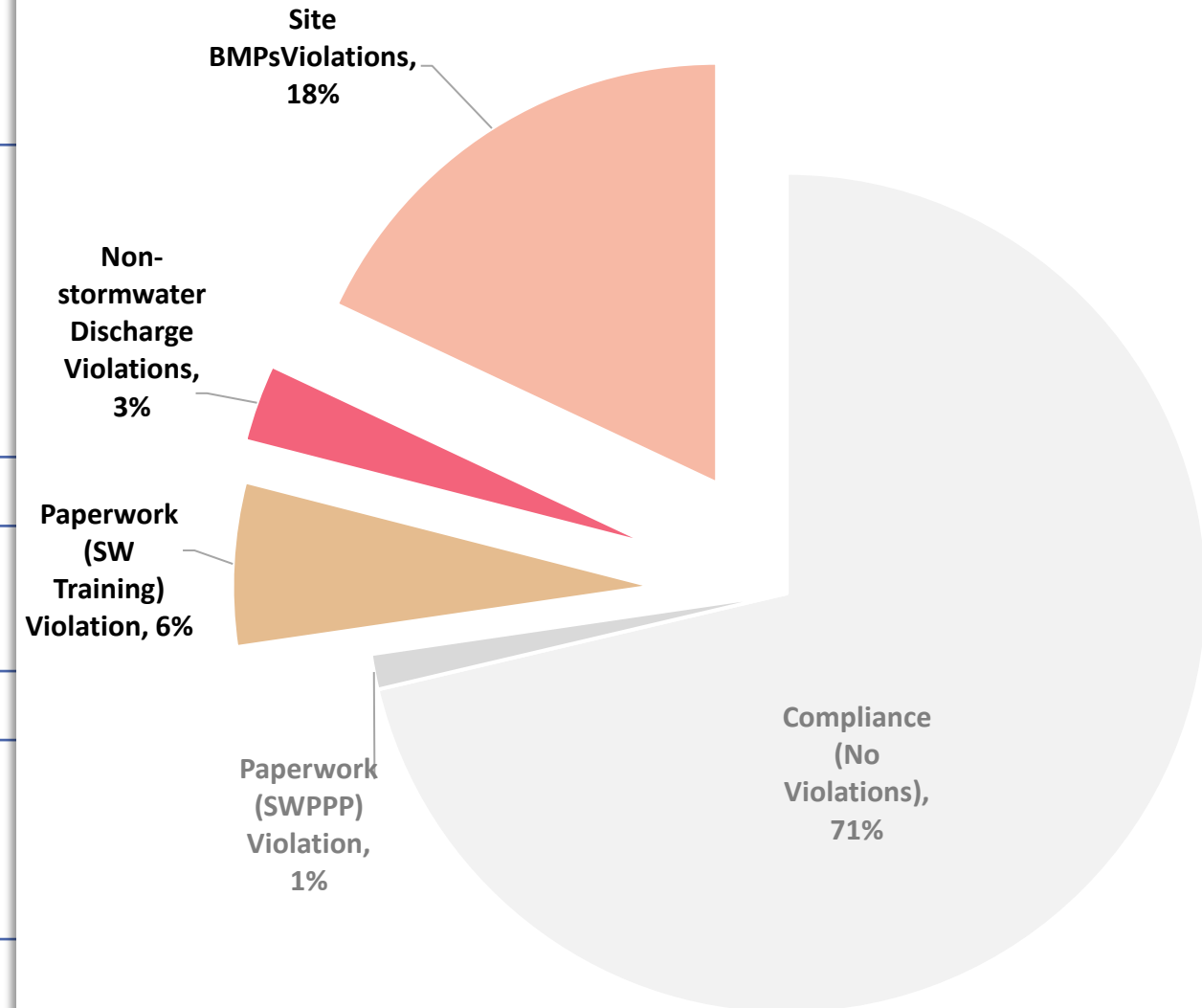
- Retired vehicles/maintenance areas
- Spill kits
- Hazardous materials storage
- Agricultural materials/stockpile management

Paperwork (6%)

- Documentation for annual stormwater training

Non-stormwater Discharge (3%)

- Sediment discharges to stormwater flows
- Irrigation runoff or other non-stormwater discharges





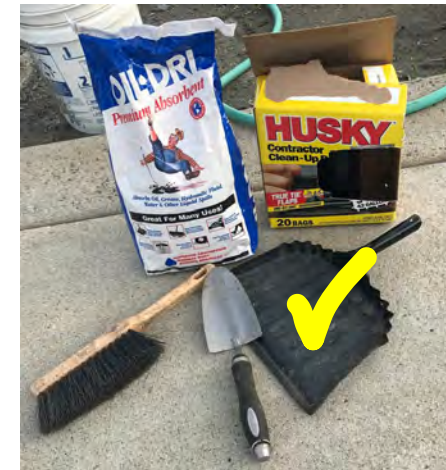
Ensure retired vehicles/maintenance areas are managed to prevent vehicle and mechanical fluids from exposure to/mixing with stormwater

- Store batteries and waste oil in a manner that prevents exposure to stormwater (e.g., rain from above and surface stormwater runoff/flows)
- Maintain farm vehicles to prevent vehicles fluids from mixing with stormwater (e.g., leakproof and/or with catch pans)
- Retired vehicles – drained and/or use of catch pans
- Vehicle maintenance – conducted in a manner that prevents non-stormwater discharge

BMPs for storage of retired vehicles and vehicle maintenance areas

Maintain Spill Kit for Dry Clean-up Response

- Maintain and keep readily accessible materials and equipment necessary for spill response.
- Basic contents include:
 - absorbent (e.g., kitty litter)
 - broom
 - disposal bags
 - PPE (e.g., gloves, goggles)
- Train staff on location/use of spill kit



BMPs for dry clean up or spill response

BMPs for storing HAZMAT

Manage Hazardous Materials

- Manage hazardous materials to prevent exposure to, or mixing with, stormwater
- Store above ground and covered
- Secondary containment, if needed



Small Business HAZMAT Disposal Resources

Ensure disposal of wastes are in a manner that prevents pollution. It is the responsibility of operators to determine if wastes are hazardous, and to carry out appropriate disposal. Refer to California Department of Toxic Substances website:

<https://dtsc.ca.gov/defining-hazardous-waste/>; and County of San Diego document:
[https://www.sandiegocounty.gov/content/dam/sdc/deh/hmd/pdf/hm-984%20\(02-11\).pdf](https://www.sandiegocounty.gov/content/dam/sdc/deh/hmd/pdf/hm-984%20(02-11).pdf)

The following provide information on how to properly dispose of HAZMAT. Last link reviews programs available to small businesses for proper disposal of HAZMAT:

<https://dtsc.ca.gov/universal-waste-fact-sheet/>
<https://www.sandiegocounty.gov/content/sdc/deh/hazmat/hazwaste.html>
https://www.sandiegocounty.gov/content/sdc/dpw/recycling/hhw/chd_hhw_smallbus.html



BMPs for managing general materials and stockpiles

Manage Materials/Stockpiles

- Prevent materials/stockpiles from mixing with stormwater & discharging from the site
- Know how stormwater flows across the agriculture site
- Maintain/Repair/Upgrade BMPs
- May use:
 - Berms (e.g., to convey stormwater around piles)
 - Tarps
 - Straw wattles
 - Other barriers to prevent mixing/dischARGE to stormwater flows



Complete Annual Stormwater Training

All regulated sites are required to conduct & document stormwater training at least annually for all operators, employees, and field workers with responsibility for activities that could result in unauthorized discharges of pollution or non-stormwater.

Agricultural Water Quality (AWQ) Program
Annual Stormwater Training Material
Available online

Recursos de entrenamiento de aguas pluviales disponibles en línea
 tài liệu đào tạo về thoát nước mưa có trên trang web
 網站上提供的雨水培訓文件
 magagamit online ang mga dokumento ng pagsasanay sa tubig-bagyo
 الوثائق التدريبية على تصريف مياه الأمطار متوفرة على الموقع الإلكتروني

Agricultural Water Quality Best Management Practices (BMPs)
 | [English](#) [Spanish](#) [Vietnamese](#) [Chinese](#) [Tagalog](#) [Arabic](#)

Only Rain in the Storm Drain
 | [English](#) [Spanish](#) [Vietnamese](#) [Chinese](#) [Tagalog](#) [Arabic](#)

UCCE Agricultural Water Quality Continuing Education Course Ch. 1 – 4
 | [English](#) [Spanish](#)

Annual Stormwater Training Documentation Fillable Form
 | [English](#) [Spanish](#) [Vietnamese](#) [Chinese](#) [Tagalog](#) [Arabic](#)

Use this QR Code or visit www.sandiegocounty.gov/content/sdc/awm/ag_water.html



COUNTY OF SAN DIEGO - DEPARTMENT OF AGRICULTURE, WEIGHTS AND MEASURES AGRICULTURAL WATER QUALITY PROGRAM

STORMWATER TRAINING RECORD

(Training Required Annually)

BUSINESS NAME:	PHONE:
STREET ADDRESS:	
CITY AND ZIP:	

TRAINER NAME:	TRAINER TITLE:
TRAINER SIGNATURE:	

CATEGORIES TO INCLUDE IN TRAINING
(Check when completed.)

- Preventive Maintenance
- Good Housekeeping
- Proper Waste Disposal and Non-Stormwater Disposal Alternatives
- Equipment/Vehicle Maintenance and Repair
- Spill Response, Containment, and Recovery
- Recycling
- BMP Maintenance
- Other: _____

TRAINING MATERIALS USED
(Please check all that apply.)

- Agricultural Water Quality Best Management Practices (BMPs) document
- UCE Stormwater Training "Only Rain in the Storm Drain" document
- UCCE Agricultural Water Quality Continuing Education Course Ch. 1 – 4

The following operators, employees, and/or workers with responsibility for activities that may affect water quality have received stormwater training as specified above.

NAME	SIGNATURE	JOB ASSIGNMENT	DATE OF TRAINING
1.			
2.			
3.			
4.			
5.			

BMPs for preventing sediment discharges

- Know how stormwater flows across the agriculture operation
- Prevent erosion and sediment discharges
- Maintain/Repair/Upgrade erosion control BMPs
- BMPs may include:
 - Sediment catch basins to settle out sediment (aka Sand Traps)
 - Culverts to convey stormwater under roads to prevent farm road washouts
 - Boulders/rip-rap to slow velocity of stormwater
 - Gravel to fill erosional rills
 - Groundcover, jute netting, mulch, hydroseeding slopes, revegetating bare areas
 - Silt fencing, straw wattles, hay bales, berms





Prevent Irrigation Runoff Discharges

- Non-stormwater discharges are prohibited (e.g., irrigation runoff).
- Prevent irrigation runoff (e.g., from irrigation ponds, lines, channels).
- Closely monitor irrigation schedules
- Check for/Repair irrigation leaks
- Capture/Recycle irrigation runoff on-site
- Convey heavy stormwater flows around irrigation collection ponds
- Prevent discharges from irrigation collection ponds


BMPs for preventing irrigation runoff discharges

BMPs for preventing general non-stormwater discharges

- Prevent discharge of non-stormwater
- Know how stormwater flows across the agriculture operation
- Maintain/Repair/Upgrade non-stormwater control BMPs
- Recycle/Reuse to produce minimal waste
- Remove illicit connections
- Monitor on-site stormwater channels
- Remove debris/leaves/trash from on-site stormwater channels



Strategies for Avoiding AWQ Violations

1. Know how stormwater flows across the agriculture operation
 2. Prevent irrigation runoff (e.g., from irrigation ponds, lines, channels)
 3. Have spill kits accessible
 4. Prevent erosion and sediment discharges to stormwater flows
 5. Prevent materials/stockpiles from mixing with stormwater
 6. Manage farm roads to prevent washouts
 7. Complete/document annual stormwater training
 8. Manage hazardous materials to prevent exposure to/mixing with stormwater
 9. Ensure retired vehicles/maintenance areas are managed to prevent vehicle/mechanical fluids from exposure to/mixing with stormwater
 10. Implement secondary containment when needed
 11. Inspect your site frequently and maintain/repair/upgrade BMPs as needed
- 

Resources for Agricultural BMP Implementation

- University of California Cooperative Extension (UCCE): 858-822-7711, <http://cesandiego.ucanr.edu/>
- Natural Resources Conservation Service (NRCS): 760-745-2061, www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/technical/cp/ncps/?cid=nrcs143_026849
- Mission Resource Conservation District (MRCD): 760-728-1332, www.missionrcd.org
- Resource Conservation District of Greater San Diego County: 619-562-0096, www.rcdsandiego.org
- AWM Agricultural Water Quality (AWQ) Program: 858-614-7786, AWQ.AWM@sdcounty.ca.gov, www.sandiegocounty.gov/content/sdc/awm/ag_water.html
- AWM Pesticide Regulation Program: 858-694-898
www.sandiegocounty.gov/content/sdc/awm/pesticides.html#:~:text=The%20Pesticide%20Regulation%20program%20ensures,homes%20and%20many%20public%20buildings
- Department of Public Works (DPW) Watershed Protection/Waterscape Ag Incentive Programs: <https://www.sandiegocounty.gov/content/sdc/dpw/watersheds/RebatesIncentives.html>



Identify Your Watershed

Department of Public Works

MENU ▾ I WANT TO ... ROADS ENGINEERING ENVIRONMENT DEVELOPMENT

Watersheds of San Diego County

Find Your Watershed

The map displays 11 distinct watershed areas in San Diego County, each color-coded and labeled: SAN JUAN (pink), SANTA MARGARITA (light blue), SAN LUIS REY (orange), CARLSBAD (yellow-green), SAN DIEGUITO (light blue), SAN DIEGO RIVER (green), PENASQUITOS (orange), SWEETWATER (purple), PUEBLO (purple), OTAY (purple), and TUJANA (orange). Major cities and landmarks are also marked, including San Clemente, Oceanside, Escondido, Chula Vista, Tijuana, and various national forests and parks.

POWERED BY esri | SanGIS, California State Parks, Esri, HERE, Garmi...

The County is home to 11 westward draining watersheds. Can you identify the watershed you live, work and recreate in? Enter your address into the search bar on the top right corner of this map to discover which is your watershed! (Your address will not be recorded)



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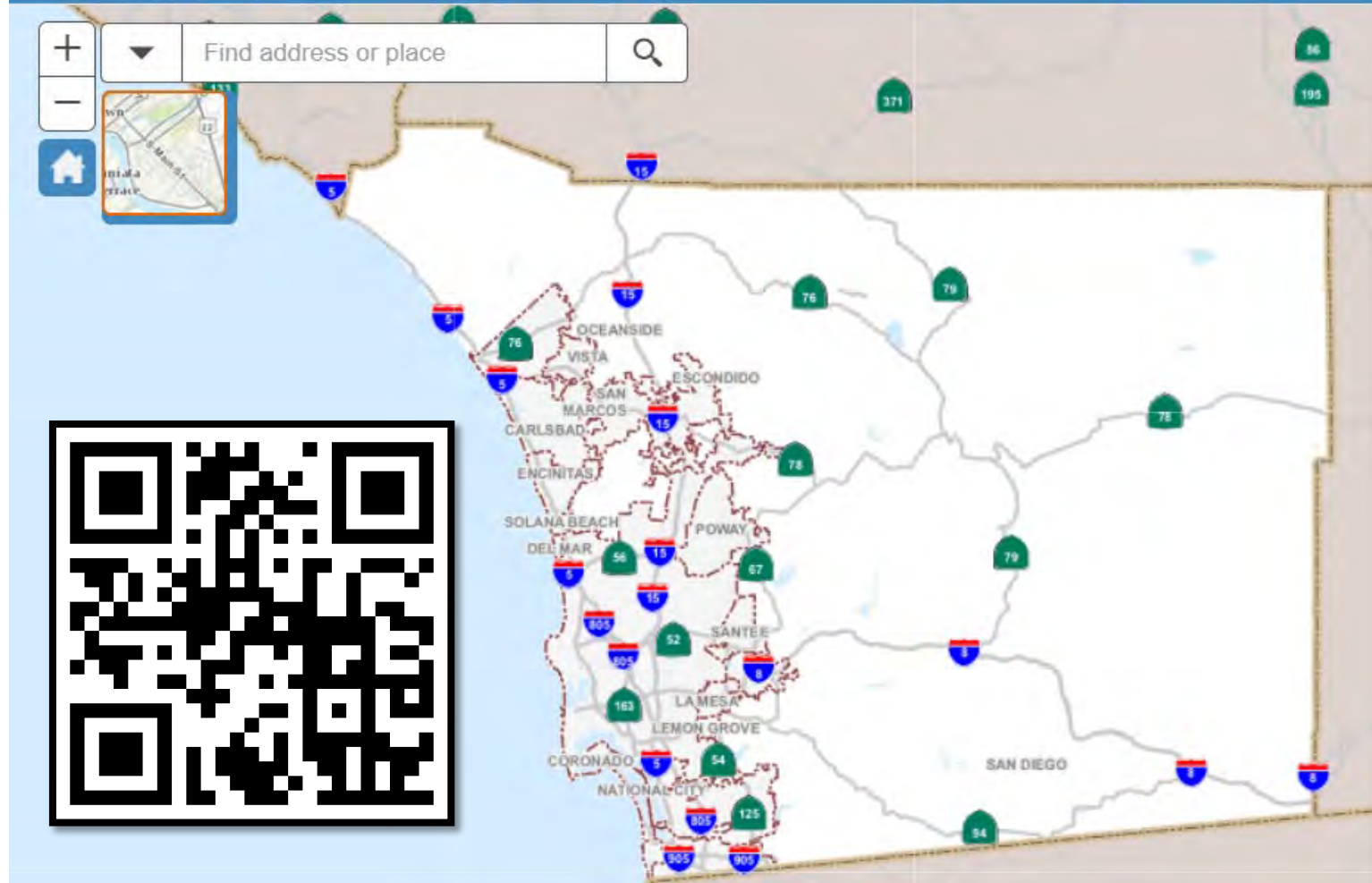
<https://www.sandiegocounty.gov/content/sdc/dpw/watersheds/Watersheds.html>

+

▼ Find address or place 🔍

-



<https://sdgis.sandag.org/>

Identify
Your
Jurisdiction

Be on the right side of organics recycling.

Choose a storage container with a closeable lid and store in a convenient place.

County of San Diego

Composting in the Unincorporated San Diego County: What You Need to Know!

Composting encourages waste diversion and reduces greenhouse gas emissions caused by the decomposition of organic materials in landfills and what's more, composting can reduce agricultural costs and even become a source of income.

There are expanded opportunities for people in the unincorporated area to get involved! What does this mean for YOU?

Composting in the County

Organic materials processing standards clarify the types of materials and operations allowed, and the organic material processing permits required by Planning & Development Services (PDS) to set up a composting operation within the unincorporated county.

Types of Materials

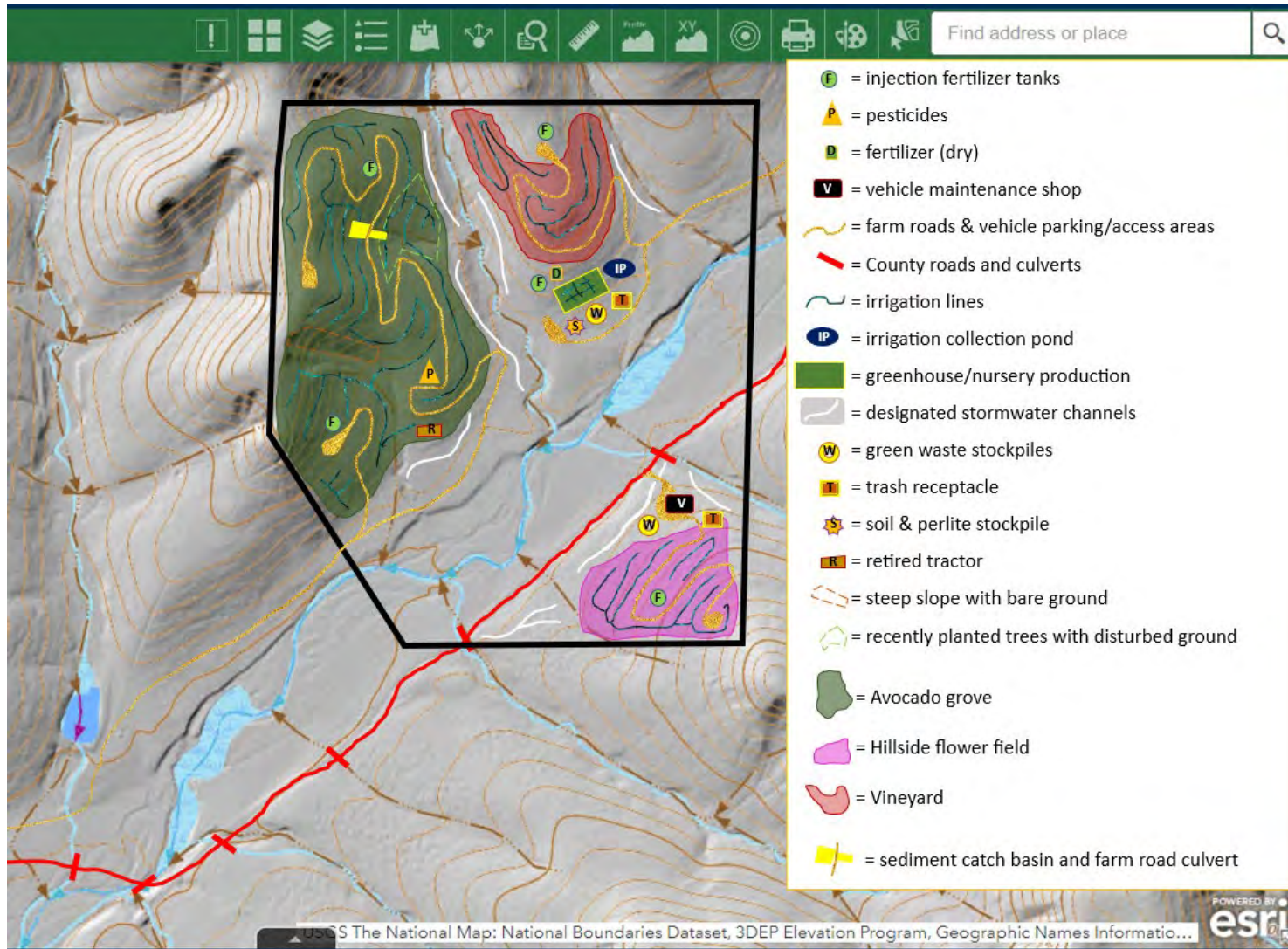
Green	Agricultural	Food	Vegetative Food
Tree and yard trimmings	Manure, crop residues, and other agricultural materials	Processed food from restaurants and grocery stores	Fruits, vegetables, coffee grounds, and other non-processed foods

Resources for Green/Organic Waste Management:

- <https://www.sandiegocounty.gov/content/sdc/dpw/recycling/OrganicWasteRecycling.html>
- <https://www.sandiegocounty.gov/content/sdc/dpw/recycling.html>
- <https://www.sandiegocounty.gov/content/sdc/dpw/recycling/composting.html>
- https://www.sandiegocounty.gov/content/dam/sdc/dpw/SOLID_WASTE_PLANNING_and_REC_YCLING/ManagingOrganics/2023.03_FAQ's%20for%20Organic%20Material.pdf
- https://www.sandiegocounty.gov/content/dam/sdc/dpw/SOLID_WASTE_PLANNING_and_REC_YCLING/ManagingOrganics/CoSD%20Composting%20Flyer.pdf
- <https://www.sandiegocounty.gov/content/dam/sdc/sustainability/docs/Organic-Materials-Processing-BMP-Plan.pdf>

Have a recycling question?
 Email Recycle@sdcounty.ca.gov or Call the
 Recycling Hotline:  **1-877-R-1-EARTH**

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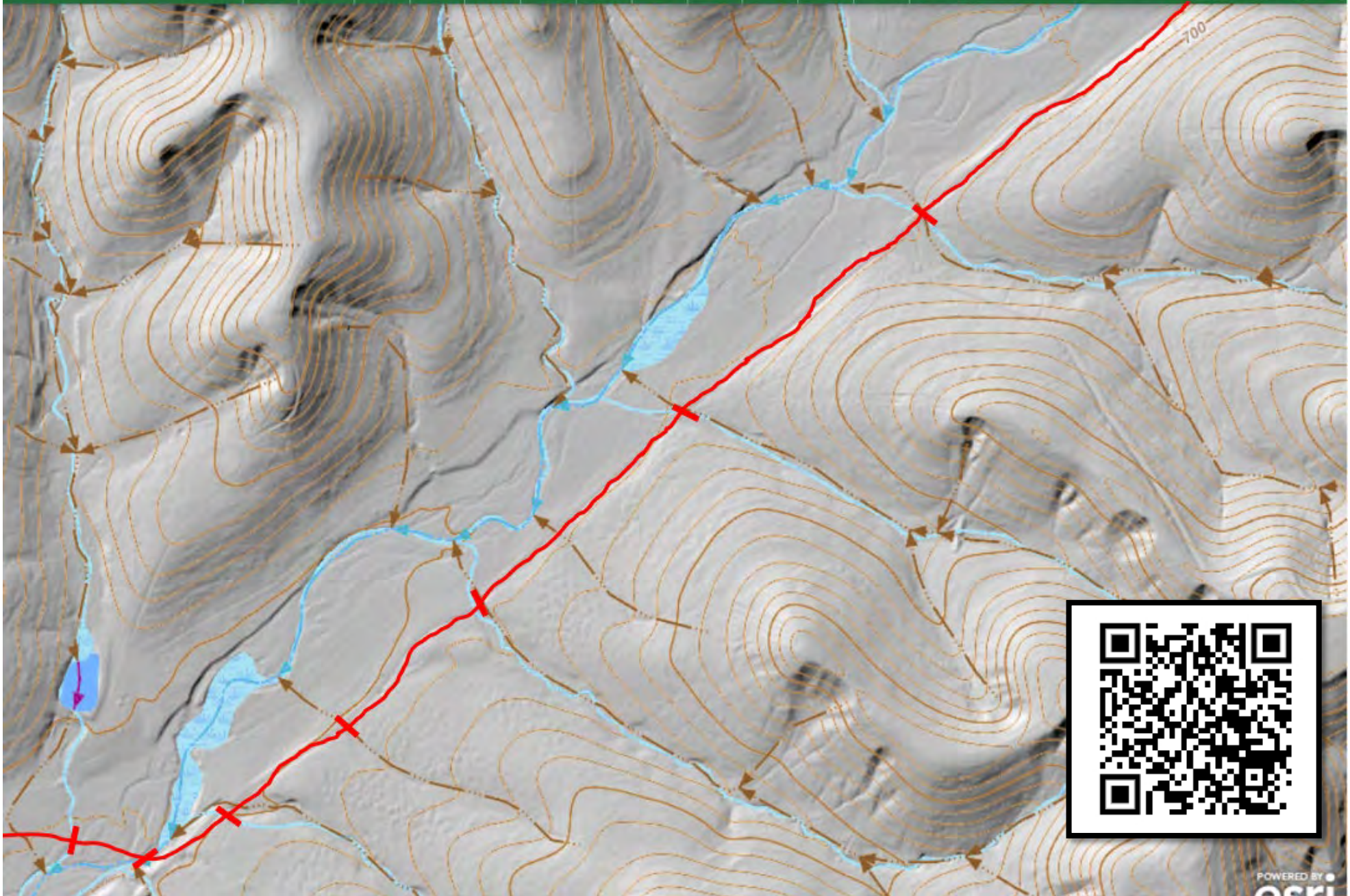


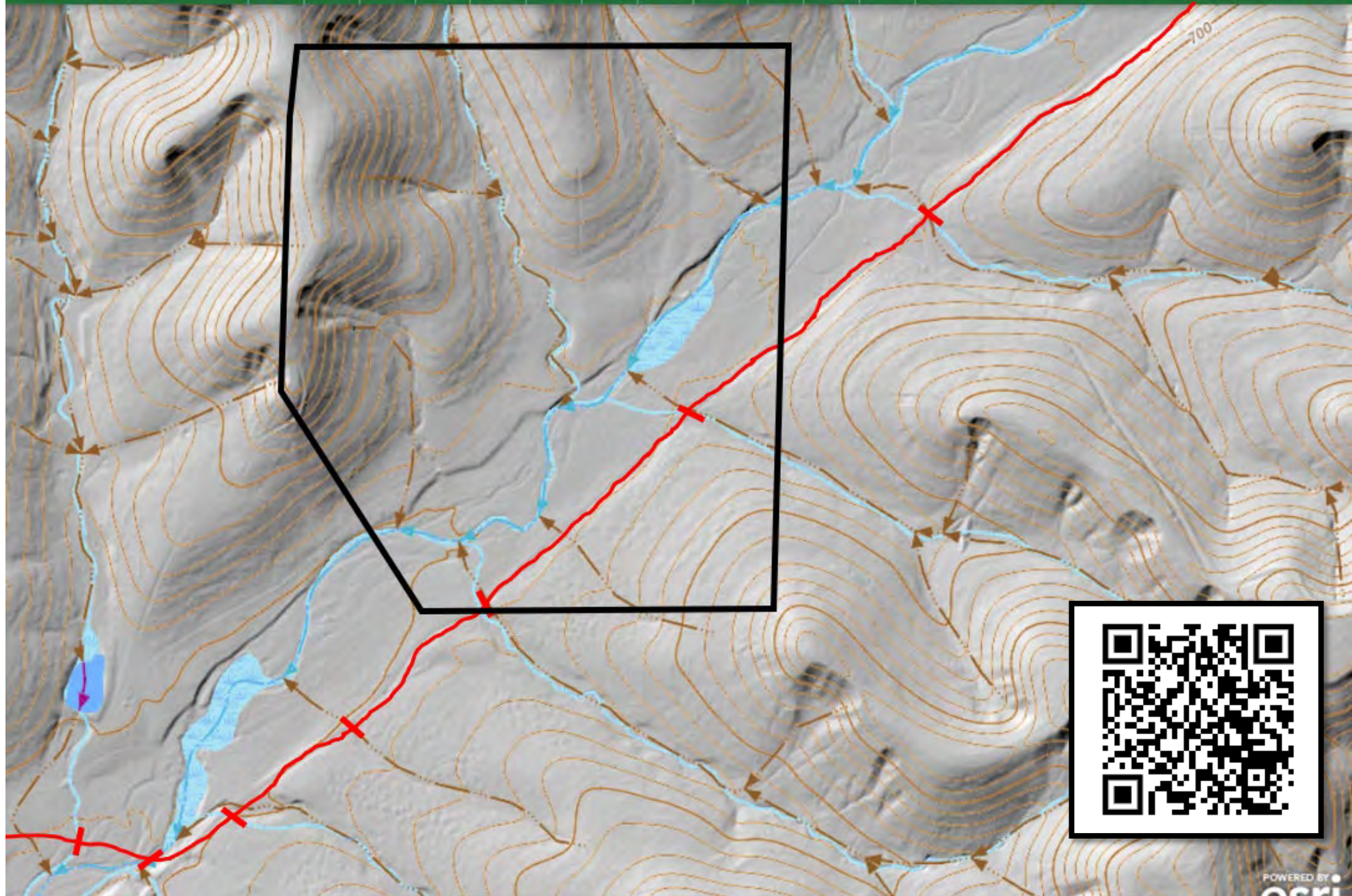
Map Game

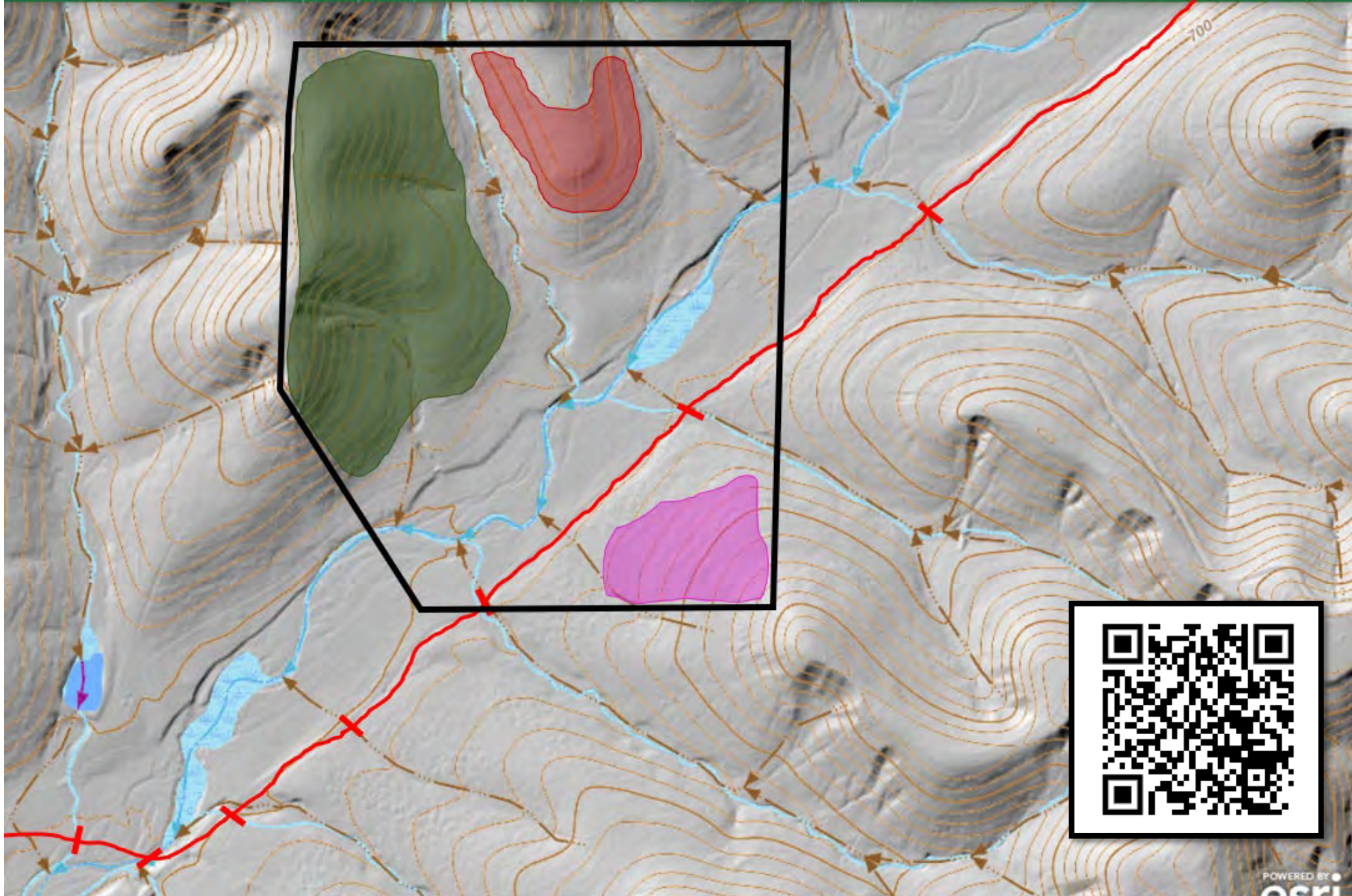


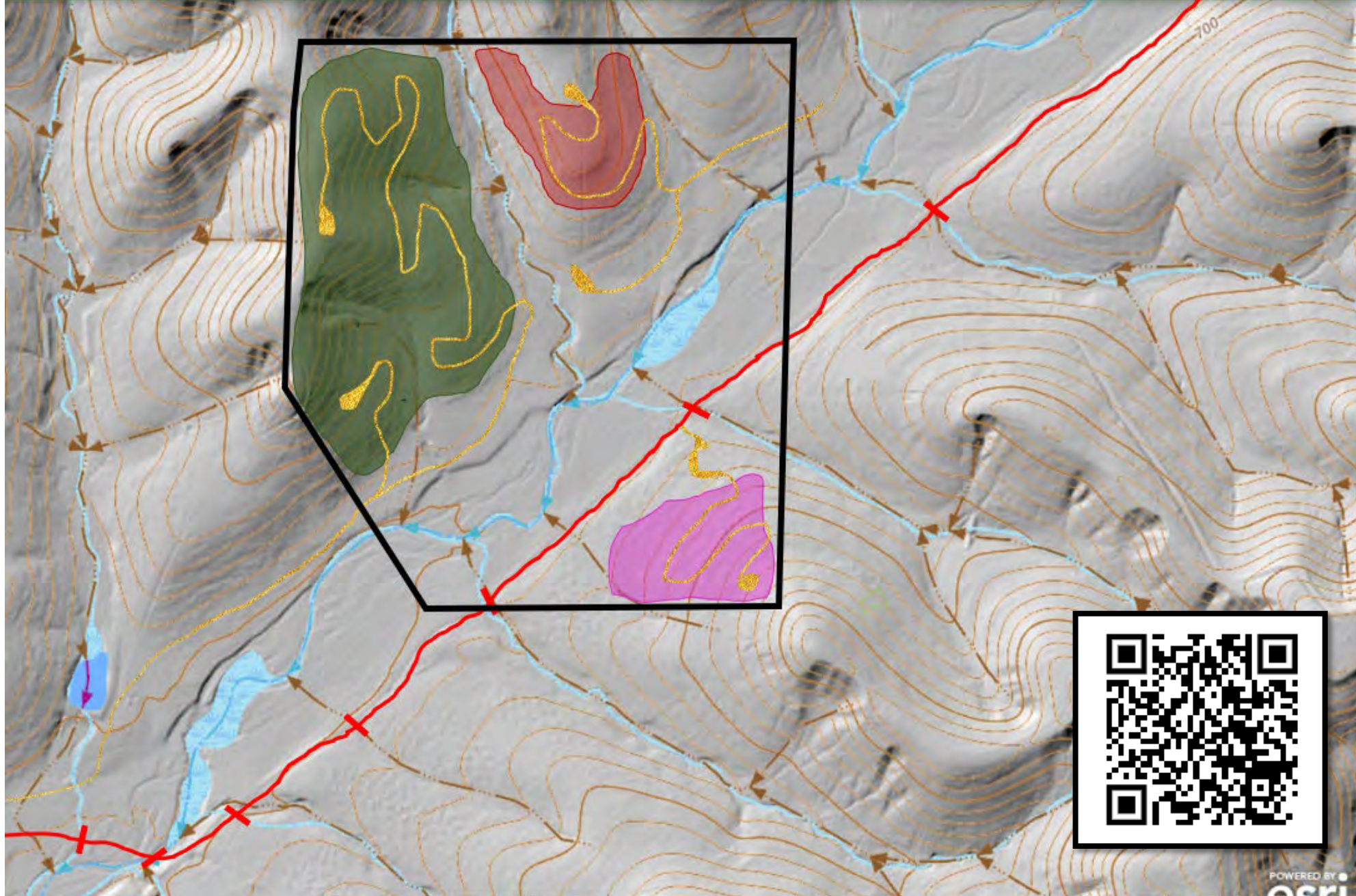
<https://www.sandiegocounty.gov/content/dam/sdc/awm/docs/BMPMapGame.pdf>

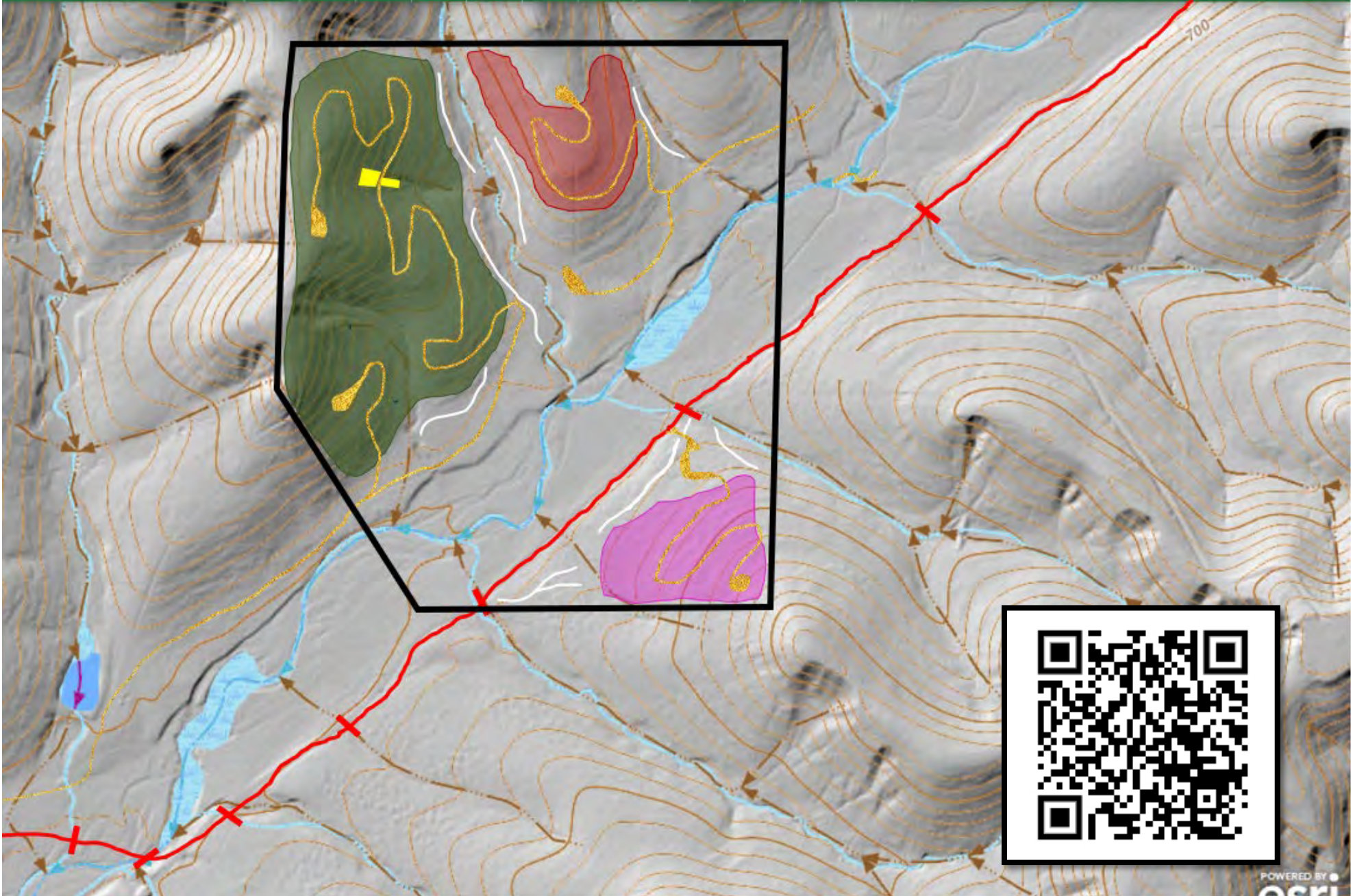
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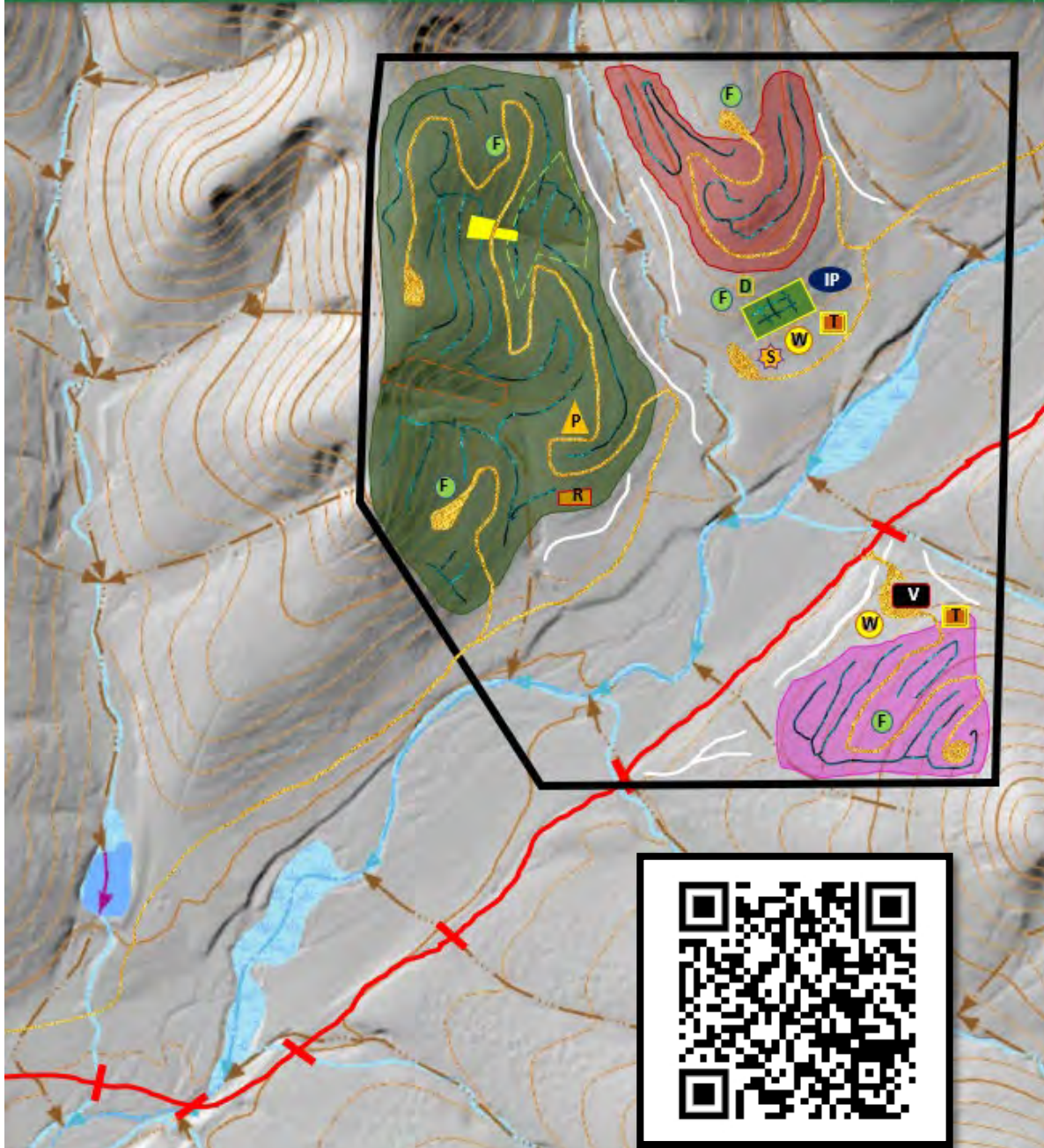








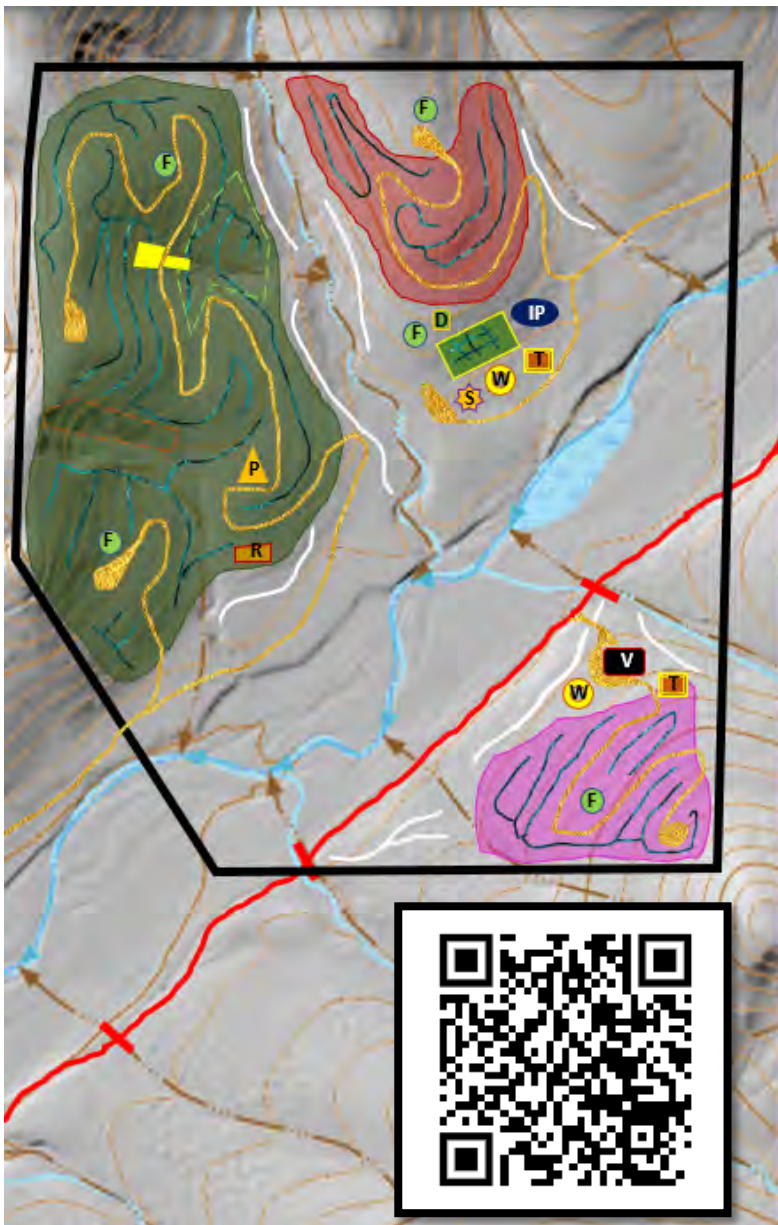




- F** = injection fertilizer tanks
- P** = pesticides
- D** = fertilizer (dry)
- V** = vehicle maintenance shop
- = farm roads & vehicle parking/access areas
- = County roads and culverts
- = irrigation lines
- IP** = irrigation collection pond
- = greenhouse/nursery production
- = designated stormwater channels
- W** = green waste stockpiles
- T** = trash receptacle
- S** = soil & perlite stockpile
- R** = retired tractor
- = steep slope with bare ground
- = recently planted trees with disturbed ground
- = Avocado grove
- = Hillside flower field
- = Vineyard
- = sediment catch basin and farm road culvert



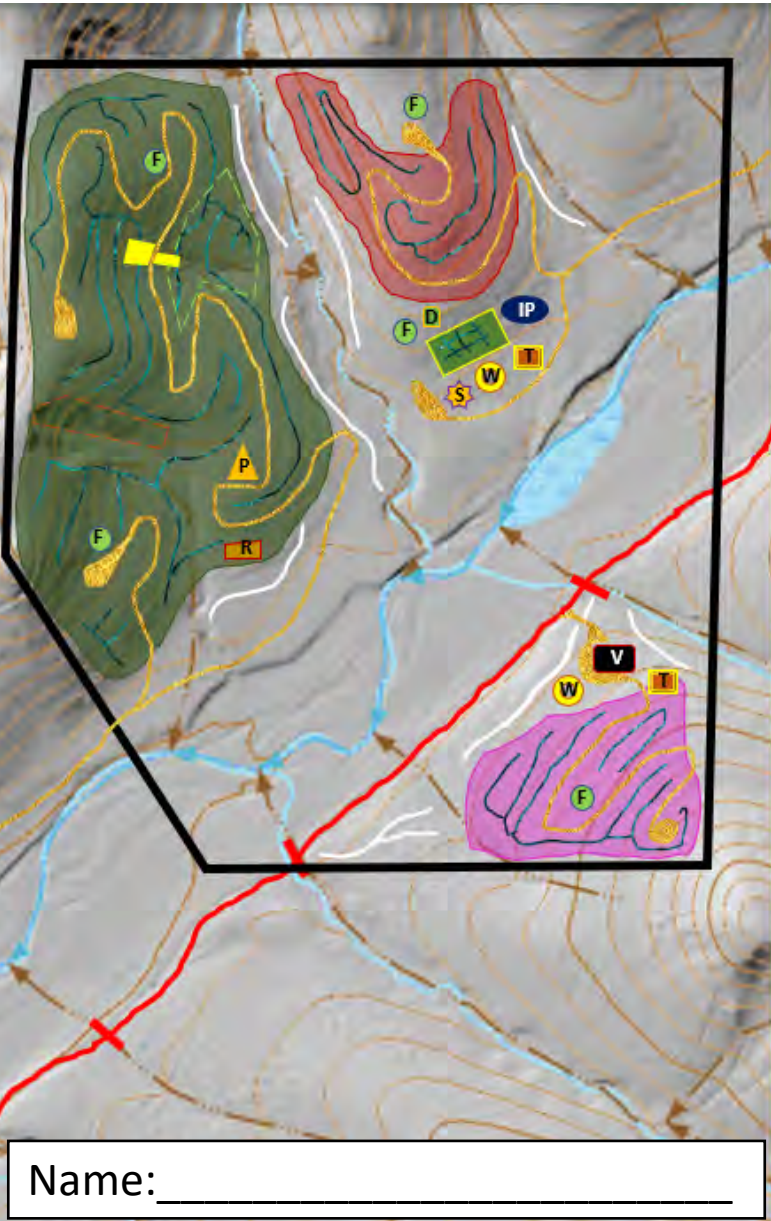
Match the Map/Agriculture Activities (Left) with the Letters/BMPs (Right) :



- F** = injection fertilizer tanks _____
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- = Hillside flower field _____
- = Vineyard _____
- = sediment catch basin & farm road culvert _____

- A. Monitor/remove sediment from basin
- B. Monitor/install straw wattles & jute netting/ground cover
- C. Monitor/implement additional erosion/control BMPs as needed
- D. Close lid to prevent exposure/mixing with stormwater
- E. Tarp/cover if practicable, and implement berms to prevent mixing/discharge to stormwater
- F. Monitor container; if needed, implement secondary containment or additional BMPs to prevent contents exposure to rain
- G. Ensure contents are not within stormwater flows & are covered to prevent exposure to rain
- H. Monitor to ensure infrastructure is in good working order without leaks that can cause erosion and non-stormwater discharge (runoff)
- I. As part of planning/engineering, design & monitor these to mitigate erosion
- J. Drain fluids or implement a catch/drip pan
- K. Store in a secured manner and prevent from contact with rain or other environmental exposure
- L. Ensure vehicle/mechanical fluids are not exposed to rain
- M. Ensure access to a spill kit
- N. Monitor, prevent excess water flows & reduce water level if needed to prevent discharge during both wet/dry weather
- O. Keep clear of leaves, sediment & other non-stormwater debris that may discharge during rain
- P. Complete stormwater training annually for all staff working in these areas, who have work activities that could result in non-stormwater discharges
- Q. Prevent non-stormwater discharges to these structures

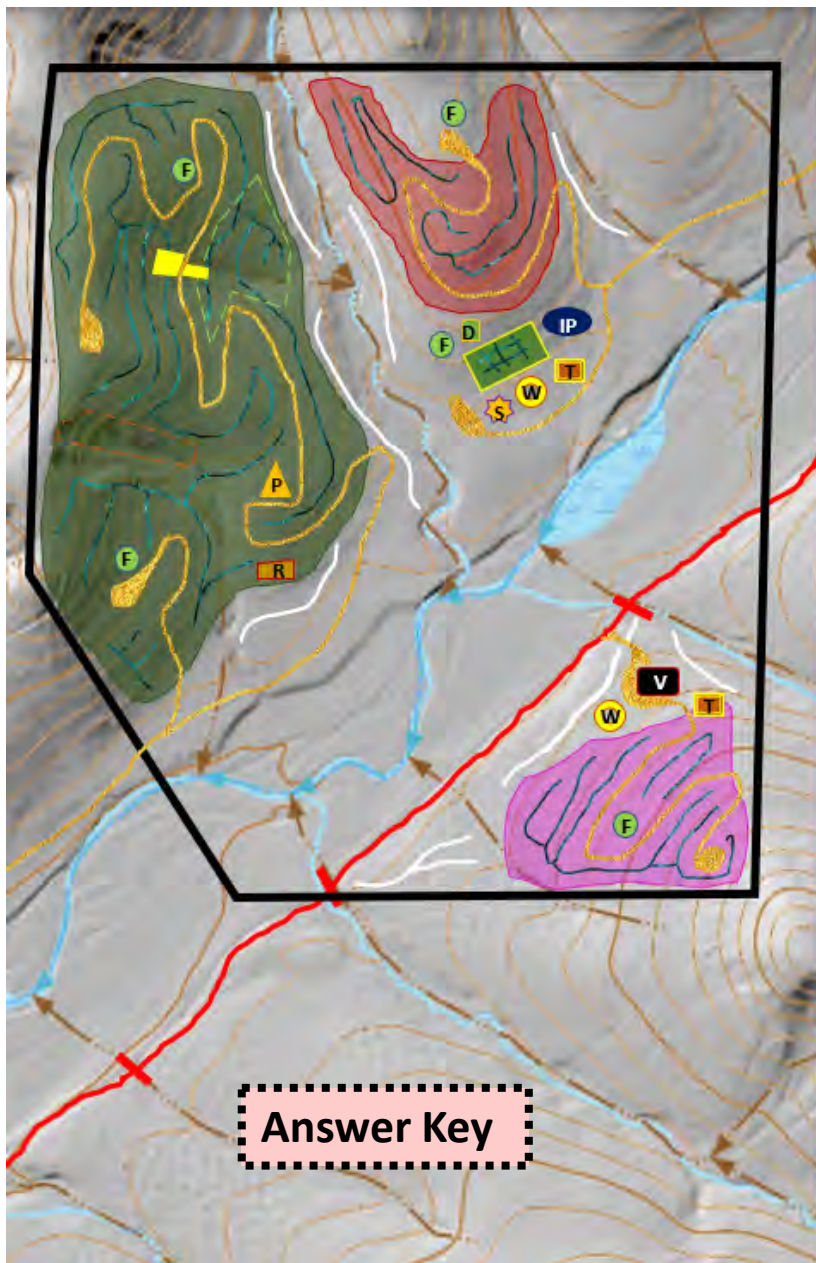
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Name: _____

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- Q. Prevent non-stormwater discharges to these structures



- F** = injection fertilizer tanks D, F, M, K
- P** = pesticides K, M
- D** = fertilizer (dry) G, K, M
- V** = vehicle maintenance shop L, M, P
- = farm roads & vehicle parking/access areas C, I, L
- = County roads and culverts Q
- = irrigation lines H
- IP** = irrigation collection pond H, N
- = greenhouse/nursery production C, P, H, M
- = designated stormwater channels O, A, I
- W** = green waste stockpiles E, C
- T** = trash receptacle D, F, K
- S** = soil & perlite stockpile E, C
- R** = retired tractor J, L
- = steep slope with bare ground B, C, I
- = recently planted trees & disturbed ground B, C, I
- = Avocado grove C, P, M, I
- = Hillside flower field C, P, M, I
- = Vineyard C, P, M, I
- = sediment catch basin & farm road culvert A, O

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Thank you! Questions?

Questions?
Ideas?
Topics?
(QIT box)

Kimberly Greene

Kimberly.Greene@sdcounty.ca.gov

(858) 239-8414

[AWQ Program webpage](#) →



*This is a recorded webinar.

AG ORDERS OVERVIEW: INSPECTIONS AND COMMON VIOLATIONS

Cailynn Smith, EIT
Water Resource Control Engineer
San Diego Water Board



June 27, 2023

PORTER-COLOGNE WATER QUALITY CONTROL ACT OF 1969 AND CLEAN WATER ACT OF 1972

- Porter-Cologne Act: Established the Water Boards
 - Accounts for both point and **non-point** source pollution and surface water and groundwater
 - Provides the regulatory authority for agricultural operations
- Clean Water Act: Principal federal statute
 - Requires states to list which water bodies are not meeting standards
 - States must set a Total Maximum Daily Load (TMDL) for impaired waters

CALIFORNIA WATER BOARDS

- 9 regional water boards
- Regions are split up throughout the state based on watersheds
- Each water board has different water quality requirements which are based on the differences in climate, topography, geology, and hydrology for each watershed



San Diego Water Board AG Orders

Order No. R9-
2016-0004,
Third-Party
General Order

Order No. R9-
2016-0005,
Individual
General Order

INSPECTIONS

Purposes: Protect Water Quality

- Compliance with Ag Order
- Complaint investigation

Types

- On-site (scheduled)
- Drive-by

Coordination

- San Diego County of Agriculture, Weights & Measures
- City programs



Become a Certified Producer (sandiegocounty.gov)

WHAT WE LOOK FOR DURING INSPECTIONS

- Chemical storage
 - Off the ground
 - Under roof coverage
 - Secondary containment
- Application practices
 - Manufacturer's label
 - Agronomic rate



WHAT WE LOOK FOR DURING INSPECTIONS

- Irrigation system
 - Leaks
 - Efficiency
 - Discharges to surface waters



WHAT WE LOOK FOR DURING INSPECTIONS

- Stockpile management
 - Covered during rains
 - BMPs for sediment migration:
 - Straw wattles
 - Gravel/sandbags
 - Out of stormwater pathway



WHAT WE LOOK FOR DURING INSPECTIONS

- Erosion Control
 - Gravel roads
 - Wood chips on roads
 - Vegetative cover
 - Spraying water on roads



WHAT WE LOOK FOR DURING INSPECTIONS

- Sedimentation Control
 - Gravel/sandbags
 - Straw wattles
 - Silt Fences
 - Vegetative cover



WHAT WE LOOK FOR DURING INSPECTIONS

- Waste management
 - Trash
 - Port-a-Potties
 - Debris



VIOLATION: DISCHARGE OF WASTE OFF OPERATION

- Waste:
 - Irrigation runoff
 - Sediment
 - Fertilizers/Pesticides



ENFORCEMENT PROGRESSION

- Voluntary compliance
- Staff enforcement letter (SEL)
- Notice of Violation (NOV)
- Investigative Order (IO)
- Cleanup Abatement Order (CAO)
- Time Schedule Order (TSO)
- Cease and Desist Order (CDO)
- Administrative Civil Liability (ACL)

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Stormwater management in nurseries and greenhouses



UNIVERSITY OF CALIFORNIA
Cooperative Extension San Diego
Nurseries and Floriculture Program



6/27/2023 Gerry Spinelli UCCE San Diego Production Horticulture Advisor for Nurseries and Floriculture

Sign up for email updates!



Sign up for email updates!

Get news from Nursery and Floriculture Program UCCE San Diego

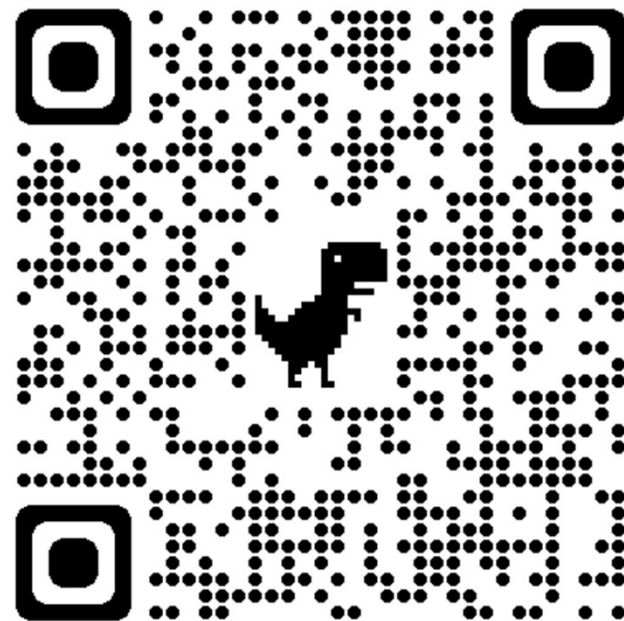
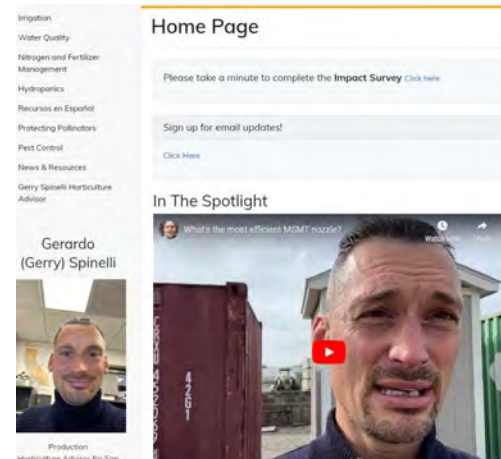
* Email

First Name

Last Name

Sign Up

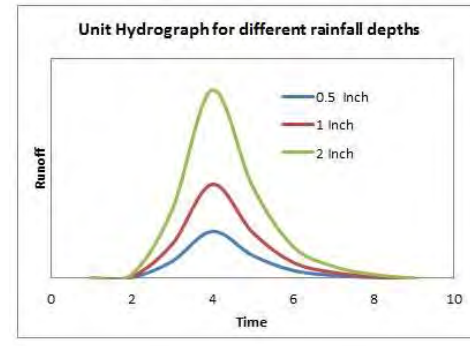
By submitting this form, you are consenting to receive marketing emails from: Nursery and Floriculture Program UCCE San Diego, 9335 Hazard Way, Ste 201, San Diego, CA 92123, US; <https://ucanr.edu/sites/floriculturenursery/>. You can revoke your consent to receive emails at any time by using the SafeUnsubscribe@link, found at the bottom of every email. [Emails are serviced by Constant Contact](#)



Check out my website!

<https://ucanr.edu/sites/floriculturenursery/>

Runoff can be caused by:



- **Stormwater**

Very high flows in a short time, difficult to manage.

Prevention and preparation.

Stormwater can pick up sediment, substrate, fertilizer, oils, fuels, etc.

- **Irrigation runoff**

Low constant flows.

Can capture, treat, reuse water.

Sedimentation ponds, injection of chlorine, ozone, etc.



Irrigation water:

“Keep all the water in your property”

Also, it can't percolate? (ponds must be lined?)

Stormwater:

“Only rain in the storm drain”

Stormwater can leave your property, but...

- No sediment
- No nitrate
- No pesticides
- No other pollutant

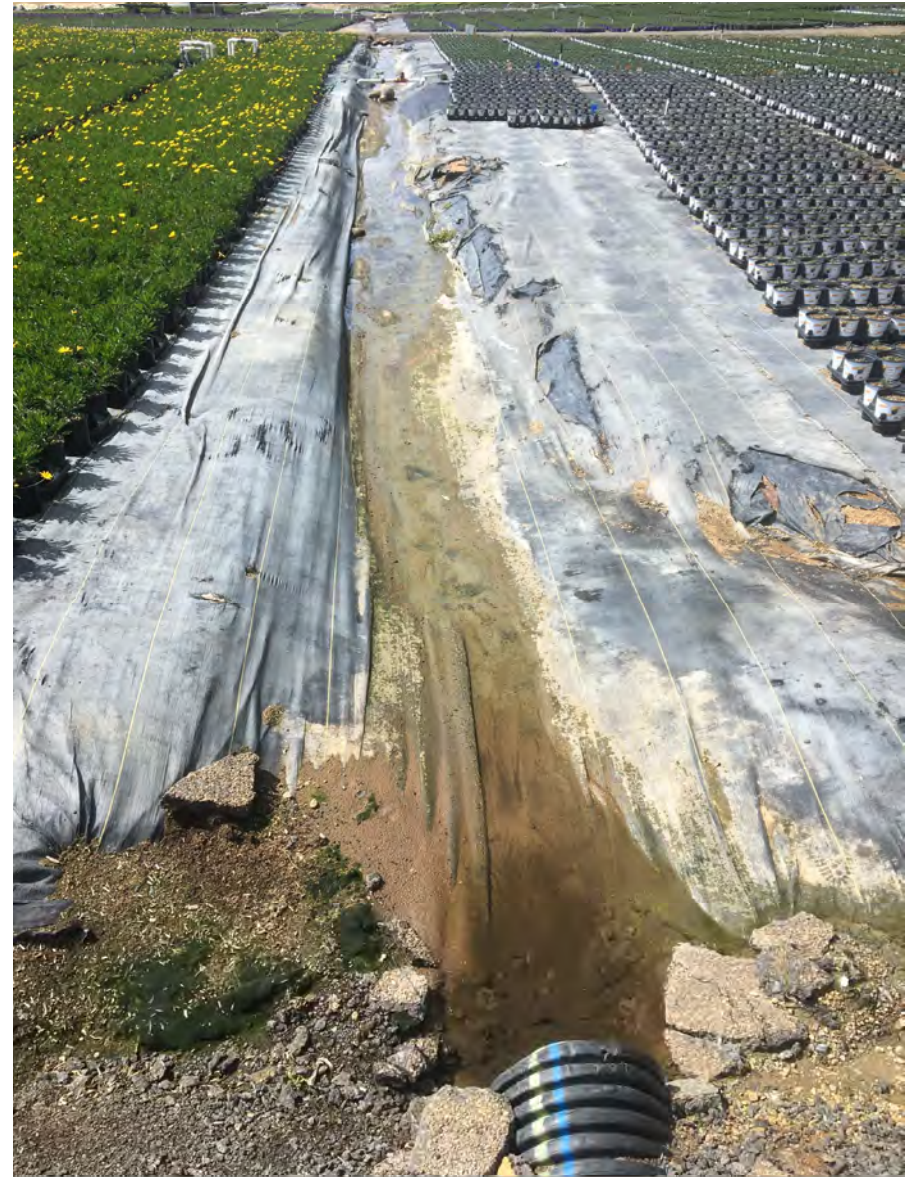
Stormwater cannot be mixed with irrigation runoff



5 solutions

- Collect runoff from impervious surfaces. Roofs, greenhouses, parking lots, concrete pads, etc (Roof Runoff Structure NRCS 558)
- Vegetate surfaces to improve infiltration and to slow down water flow
- Provide ground cover with mulch, gravel, weed mat
- Line channels and ditches with concrete (Lined waterway NRCS 468)
- Turn channels into underground outlets





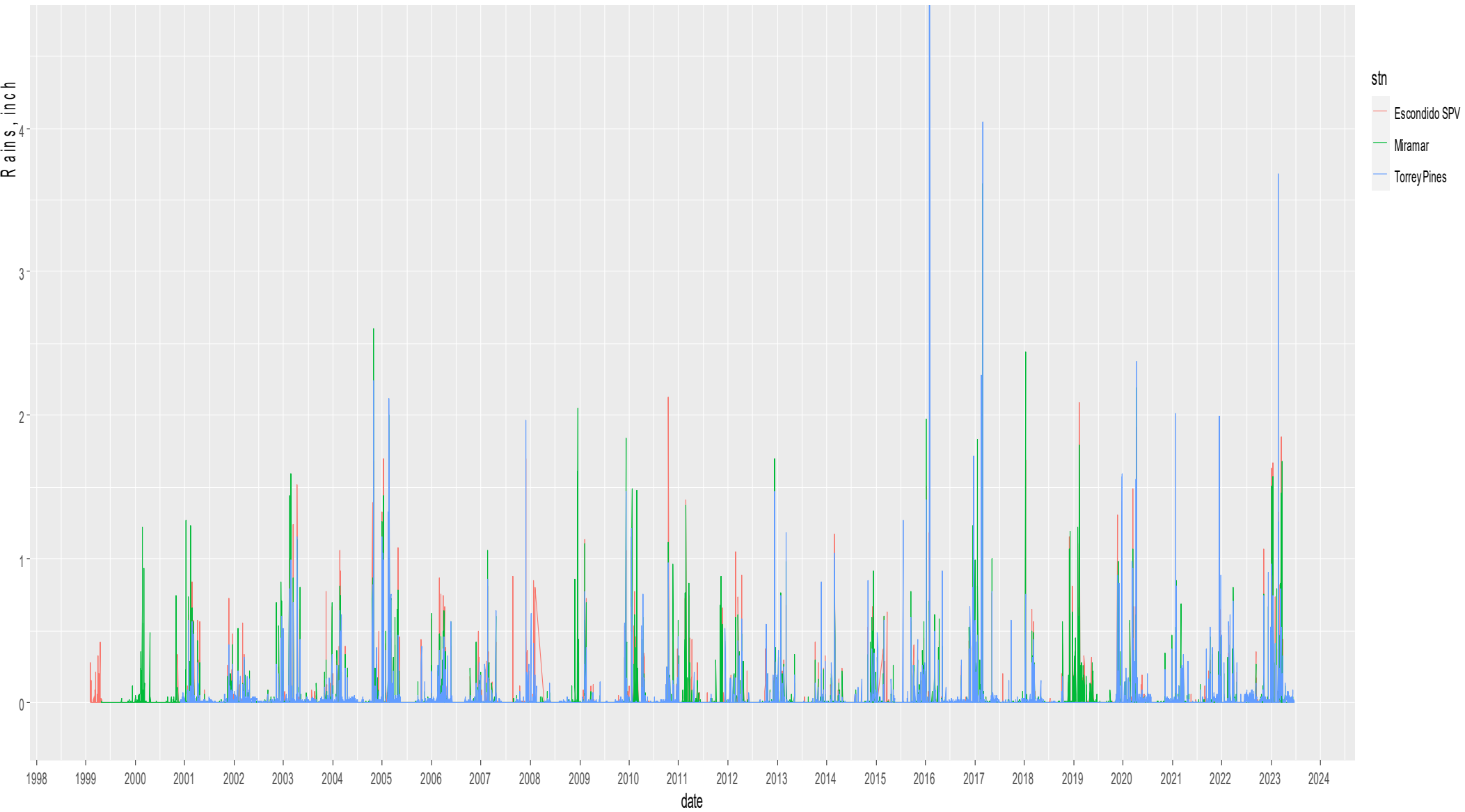












Rain catchment system

- One inch of rain over a 1-acre greenhouse generates a volume of 1 Acln or 27,154 gal



5,000 gal tank



25,000 gal tank



Before the rains come....

- Clean ditches, culverts, channels, and any water conveyance
- Empty sediment traps and collection ponds as much as possible to increase capture capacity
- Redirect flows to storm drains and not to detention pond by closing gates etc



Clean your sand trap!!!



Runoff from tunnels project by Oleg Daugovish



Bilingual Guides http://ceventura.ucanr.edu/Com_Ag/http_ ceventuraucanredu_Com_Ag_caneberry/
Article in Cal Agriculture <http://calag.ucanr.edu/archive/?article=ca.2020a0004>



Barley



Mulch



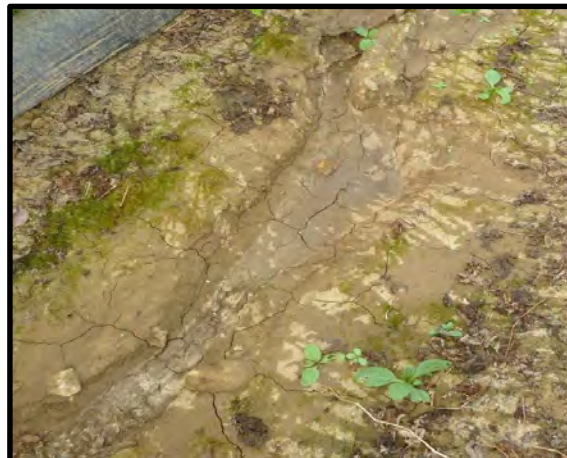
PAM



Fabric



Untreated

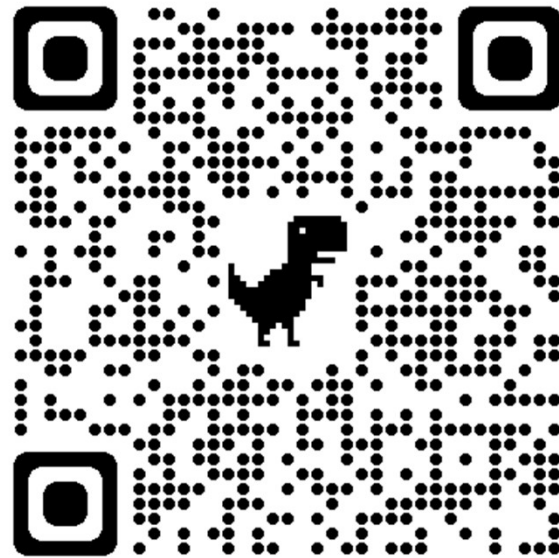


Thank you!

Gerardo Spinelli

gspinelli@ucdavis.edu

Cell 530 304 3738



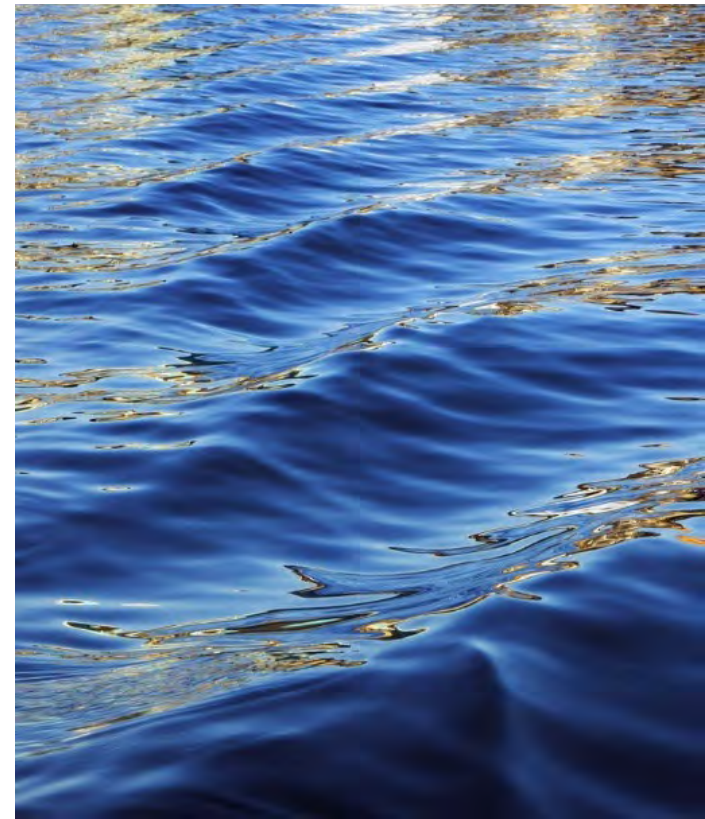
Please complete the evaluation!





Top 5 NRCS Conservation Practices for Erosion and Sediment Control

Isabel Garcia, Civil Engineer



Top 5 NRCS Conservation Practices for Erosion and Sediment Control

1. Agency Introduction
2. Farm Bill 2018
3. NRCS Eligibility & Requirements for EQIP
4. Top 5 Practices
 - I. Mulching (484)
 - II. Underground Outlet (620)
 - III. Water and Sediment Control Basin (638)
 - IV. Stream Crossing (578)
 - V. Lined Waterway or Outlet (468)

Natural Resource Conservation Service (NRCS)

- Provides technical and financial assistance to help agricultural producers and others care for the land.
- Non-Regulatory
- 6 mission goals:
 - High quality, productive soils
 - Clean and abundant water
 - Healthy plant and animal communities
 - Clean air
 - Adequate energy supply
 - Working farms and ranchlands



2018 Farm Bill

Conservation programs under the 2018 Farm Bill are:

- Financial Assistance
 - Agricultural Management Assistance Program (AMA)
 - **Environmental Quality Incentives Program (EQIP)**
 - Conservation Stewardship Program (CSP)
- Easements
 - Agricultural Conservation Easement Program (ACEP)
- Partnership
 - **Regional Conservation Partnership Program (RCPP)**



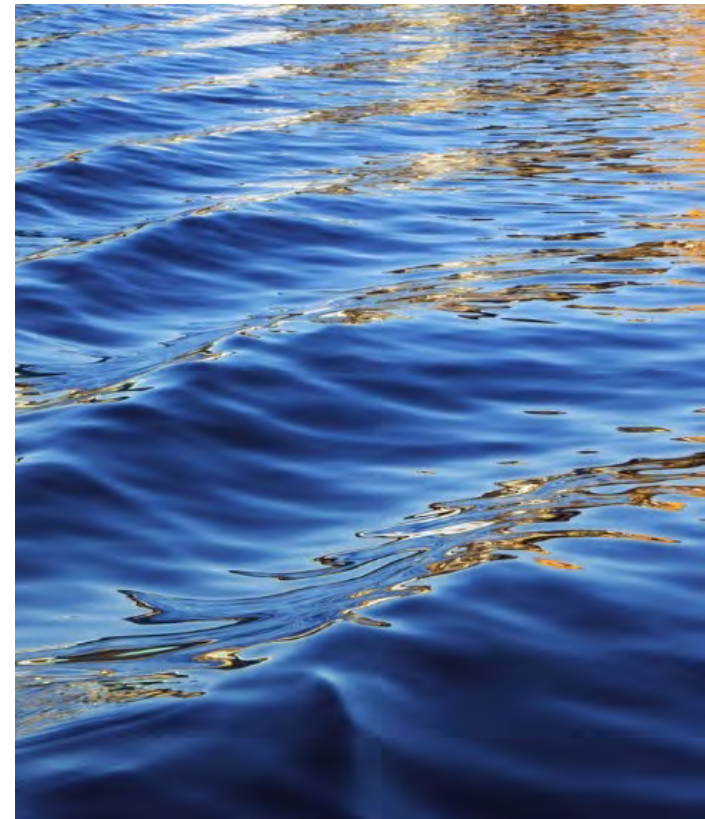
Environmental Quality Incentives Program (EQIP)

- Must be an Agricultural Producer (food, feed or fiber)
- Financial and Technical Assistance
- 1 – 10 Year Contract
- Ranking and Selection Process
- Beginning Farmer and Limited Resource Farmer Opportunities
- AGI Limitations
- Cultural Resource Evolution Process (12-18mo.)



Mulching

Conservation Practice 484



Mulching (484)

What is it?

- Temporary soil stabilization or erosion control practice
- Grass, hay, **woodchips**, wood fiber, straw or gravel placed on the soil surface

When and Where is it Used?

- Often used where temporary seeding cannot be used because of the season/climate
- On steep slopes and critical areas such as waterways
- Roads

What to Consider?

- Mulched areas should be inspected often to find where mulch material has been lost
- Mulch cover should be replaced in areas where it has been lost
- Some mulch materials may require a binder, netting, or tracking to the ground

Mulch (484) Field Examples



Mulch (484) Field Examples



Mulch (484) Field Examples



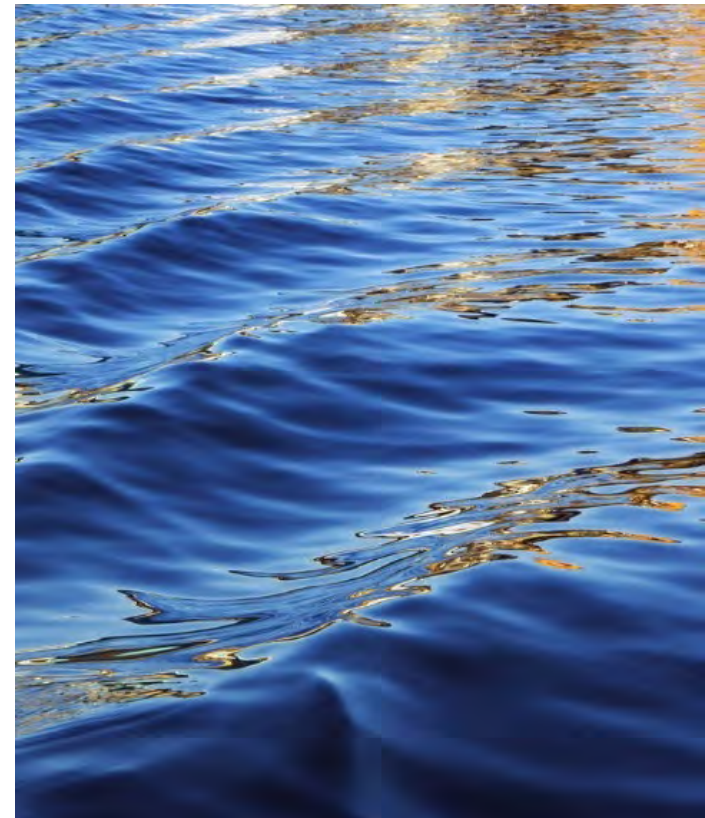
Mulch (484) Field Examples





Underground Outlet

Conservation Practice 620



Underground Outlet (620)

What is it?

- Flexible or rigid pipe installed beneath the ground surface to convey surface water to a suitable outlet
- In some cases, it can be placed on ground surface when topography calls for it

When and Where is it Used?

- To carry runoff from the top to the bottom of a slope
- Can be used as the outlet of a sediment basin
- Can also be used with rolling dips, lined waterways, sediment basin, etc.

What to Consider?

- Inlets and outlets of the Underground Outlet (U.O.) must be stabilized (fully compacted)
- Discharge should be slowed down with riprap
- U.O. should be inspected after any major storm
- If necessary, a headwall, riprap, or sandbags will be needed at the inlet
- If U.O. is placed on ground surface, it must be secured in place

Underground Outlet (620) Field Examples



Underground Outlet (620) Field Examples



U.O. on Surface



Underground Outlet (620) Field Examples



Underground Outlet (620) Field Examples



Underground Outlet (620) Field Examples



Underground Outlet (620) Field Examples

After, with a combination of practices (620, 560, 638)



Erosion due to Storm Events

Underground Outlet (620) Field Examples



Underground Outlet (620) Field Examples



U.O

Before Rill Erosion

Underground Outlet (620) Field Examples



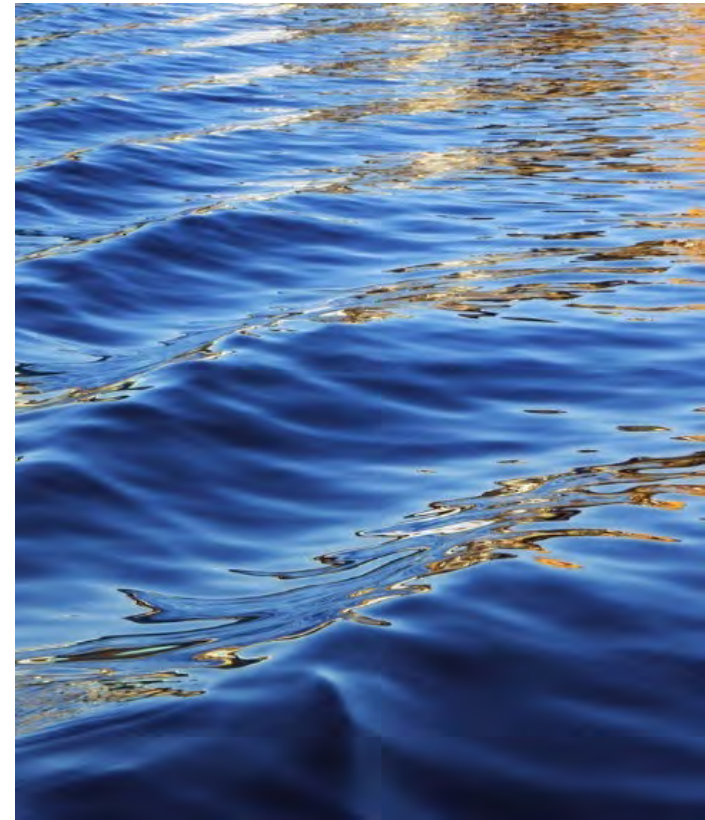
Diversion with an
Associated
Underground Outlet

Water safely delivered to
sediment basin below



Water and Sediment Control Basin

Conservation Practice 638



Water and Sediment Control Basin (638)

What is it?

- An excavated settling pond or earthen embankment placed at the end of a waterway or pipe.
- Has a gravel outlet or spillway to slow the release of the runoff and provide sediment filtration
- The basin retains the runoff long enough to allow most of the sediment to settle out
- Helps prevent clogging of onsite and offsite conveyance systems

When and Where is it Used?

- Used in conjunction with other conservation practices, such as culverts, underground outlets, lined waterways, and other channels
- Should only be constructed only if there is sufficient space and appropriate topography

What to Consider?

- The basin must be large enough to allow the sediments to settle and should have the capacity to store the collected sediment until it is removed
- The basin should be accessible for periodic maintenance and sediment removal
- The volume storage depends upon the amount and intensity of expected rainfall

Water and Sediment Control Basin (638) Field Examples



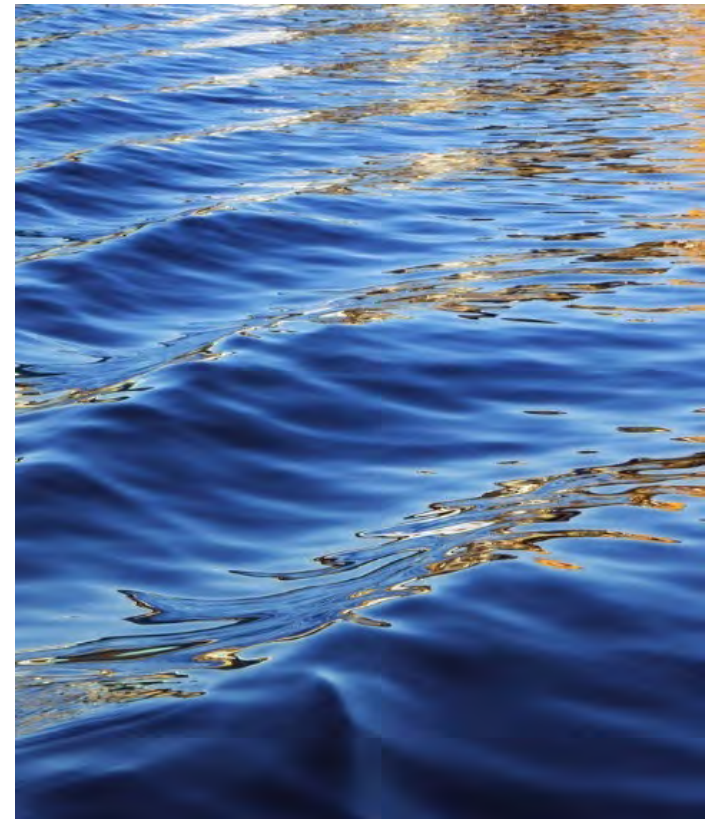
Water and Sediment Control Basin (638) Field Examples





Stream Crossing

Conservation Practice 578



Stream Crossing (578)

What is it?

- A bridge or culvert across a stream or watercourse to provide controlled access for people, livestock, equipment, or vehicles.
- Provides mean for vehicles to cross streams or watercourses without moving sediment to streams, damaging the streambed or channel, or causing flooding

When and Where is it Used?

- Used if water flow can not cross the access road without causing erosion
- Bridge and culvert can be used both together
- Culverts are most common. Pipe laid into channel to control water flow

What to Consider?

- Include riprap apron on the downstream to dissipate flow energy
- Culvert should be inspected regularly and after any major storm

Stream Crossing (578) Field Examples



Stream Crossing (578) Field Examples



Inlet Before



Inlet After

Stream Crossing (578) Field Examples



Outlet Before



Outlet After

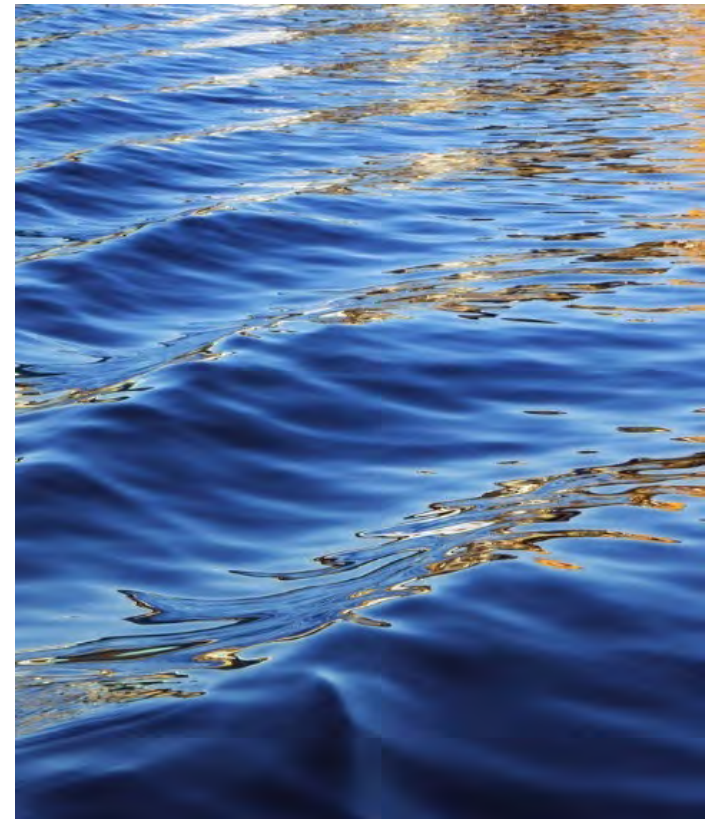
Stream Crossing (578) Field Examples





Lined Waterway or Outlet

Conservation Practice 468



Lined Waterway or Outlet (468)

What is it?

- A channel or protected outlet section with a lining of riprap, concrete, synthetic turf reinforcement fabrics, or other permanent material
- Provides safe conveyance of runoff or other flow concentrations without causing erosion or flooding

When and Where is it Used?

- Used to convey runoff from the bottom or top of a slope
- To divert flow to a suitable outlet
- A sediment basin can be either the inlet or outlet of the waterway

What to Consider?

- If using riprap to line the waterway, geotextile fabric must be used underneath
- The waterway should have a positive grade the entire length to avoid the collection of water

Lined Water or Outlet (468) Field Examples



Lined Water or Outlet (468) Field Examples



Lined Water or Outlet (468) Field Examples



County of San Diego
Department of Agriculture,
Weights & Measures

Pesticide Laws and Regulations



Presented by:

Senior Agricultural/Standards Inspector **Daniel Desserich**

Senior Agricultural/Standards Inspector **Sean Foley**

Overview of Today's Topics

- Licensing changes and updates
- Personal Protective Equipment
 - Requirements and updates
- Storage of Pesticides
- Disposal of Containers and Pesticides

NEW!

Changes to Pesticide Licensing and Certifications

- Title 40 Code of Federal Regulations (CFR) Part 171
 - This is the federal code that defines the parameters of these qualifications set by the EPA
 - New revisions to this regulation require updates to the testing and certification of pesticide handlers.
 - This will include holders of Private Applicator Certificates (PAC), Qualified Applicator Licenses (QAL), and Qualified Applicator Certificates (QAC)
 - Goes into effect **January 2024**



CODE OF FEDERAL
REGULATIONS



Changes to Pesticide Licensing and Certifications

What does this mean for Private Applicator Certificate holders?

- For PAC renewal, you **will need to take an updated exam** if you obtained your PAC prior to 2023
 - Continuing Education Units (CEUs) can **NOT** be used to renew your PAC if obtained prior to 2023
 - However, future PACs can be renewed through CEUs if first obtained via the updated exam during, or after, 2023
- Current PACs will remain active until their set expiration date.



Changes to Pesticide Licensing and Certifications

What does this mean for Private Applicator Certificate holders?

- For PAC holders using **Fumigants**
 - **NEW** *additional exam category* for fumigants must be passed in addition to the new PAC exam.
 - First time an additional category has been added to the PAC.
 - This involves fumigants including treatments of rodents such as with Aluminum Phosphide products.

California Department of
Pesticide Regulation STATE OF CALIFORNIA
Pest Management and Licensing Branch

PRIVATE APPLICATOR CERTIFICATE

CERTIFICATE NUMBER VALID THROUGH
DEC.

NAME _____

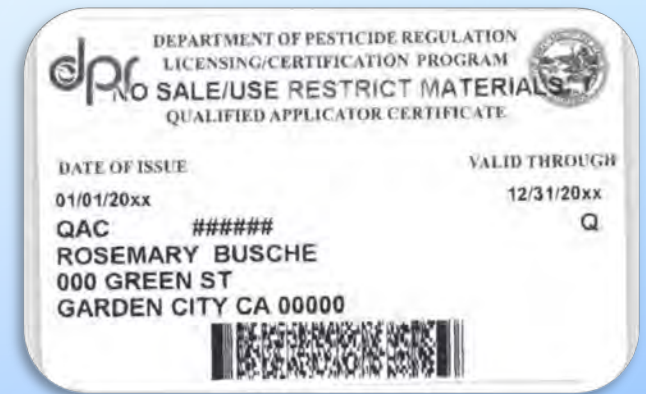
ADDRESS _____



Changes to Pesticide Licensing and Certifications

What does this mean for Qualified Applicator License/Certificate holders?

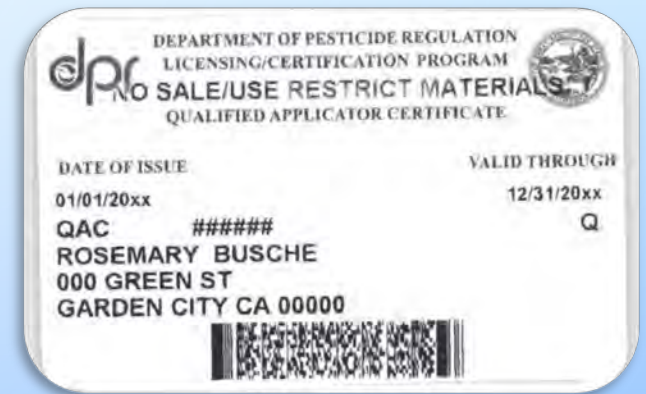
- These Qualifications are managed by the California Department of Pesticide Regulations (**DPR**)
 - The County is not involved with issuance of these licenses/certificates.
- These licenses are remaining active; however, the associated categories are changing. The following categories are being **removed/integrated** into other categories:
 - **N** – Sewer Line Root Control
 - **L** – Wood Preservation
 - **M** – Anti-fouling Tributyltin
 - **P** – Microbial Pest Control
 - **O** – Field Fumigation



Changes to Pesticide Licensing and Certifications

What does this mean for Qualified Applicator License/Certificate holders?

- **NEW Categories** are being added to the QAL/QACs
 - **L – Soil Fumigation**
 - For use of fumigants to control soil pests in sites including fields, forests, greenhouses, individual tree or vine hole sites.
 - **M – Non-Soil Fumigation**
 - For use of fumigants in enclosed aeras, pest burrows, sewer lines, and other areas not covered under Category L.
- Obtained by passing a new exam.
- **Questions about these changes can be addressed by DPR's Licensing Department. (www.cdpr.ca.gov)**



Proper Personal Protective Equipment



Label Required PPE

- **May include:**

- Eye protection (glasses, goggles, or face shield)
- Gloves
- Respirator
- Footwear
- Headgear
- Apron
- Coveralls

- **May list nothing**



Where Are the PPE Requirements?



PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category C on an EPA chemical resistance category selection chart.



PRECAUTIONARY STATEMENTS *(continued)*

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves (such as nitrile, butyl, neoprene, or barrier laminate)
- Shoes plus socks

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.



Why Review the Label?

- Companies get bought out
- Product manufactures change
- Product EPA Reg No. could stay the same, but label instructions could change without an announcement.
 - i.e., Rates, sites, and PPE
- Product EPA Reg No. could change
 - Needed for Accurate Pesticide Use Reporting



EPA Reg. No. 70506-6-53883

Regulation Required PPE

- **Required even if it is not required by the label!**
 - Applies to employees only
 - Employer shall assure PPE is worn
 - Chemical resistant gloves 14 mil thickness
 - Protective eyewear ANZI Z87.1




Protective Eyewear Requirements

- Provides brow and temple protection
- Must be identified as in compliance with ANSI Z87.1 requirements
 - Face shield
 - Goggles
 - Safety Glasses
 - Styles available to fit over prescription glasses
 - In catalogs denoted as OTG (Over The Glasses).
- Must be provided by employer



Glove Requirements

- If Product labeling requires a specific glove barrier or identifies a specific category- it must be used
 - Must be at least 14 mils
- If product labeling requires chemical-resistant gloves
 - Must be at least 14 mils
 - Unless Barrier laminate or polyethylene gloves are used

 **Glove Category Selection Key**

Label Code	Material Recommended by CDPR	Material Code
A	1,2,3,4,5,6,7,8	1: Laminate
B	1,2	2: Butyl
C	1,2,3,4,7,8	3: Nitrile
D	1,2	4: Neoprene
E	1,3,4,8	5: Natural
F	1,2,3,8	6: Polyethylene
G	1,8	7: PVC
H	1,8	8: Viton

All but Laminate and Polyethylene must be 14 mils or thicker

Gloves Required by Label

- Label glove requirements can change
- Important to read the label first!



PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made out of barrier laminate or butyl rubber \geq 14 mils
- Socks plus shoes

Glove Liner Requirements

- Task requiring high level of manual dexterity
- Chemical-resistant gloves less than 14 mil thickness may be used
 - Up to 15 minutes only
 - Must be discarded of after use



Label Required Respiratory Use

- Labels are now requiring a respirator when they did not in the past.
- Required use means employees need
 - Medical evaluations (once)
 - Fit Testing (annually date-to-date)
 - Training (annual)
 - Filter changeout (Daily)



Respirator Required by Label

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Protective eyewear
- Long-sleeved shirt and long pants
- Shoes plus socks

Mixers/loaders and applicators must wear a NIOSH-approved particulate filter with any N, R, or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C.



Storage of PPE

- The employer shall:
 - Provide all required PPE and clean or replace any worn, damaged, or heavily contaminated PPE in storage
 - PPE is kept separate from personal clothing
 - Measure are taken to prevent heat related illnesses from PPE
 - Discard heavily contaminated materials
 - Wash PPE separate from other clothing and dry PPE before storing
 - Assure PPE stays on property and handlers do not take it home.

Storage of Pesticides

- Permit available for stored Restricted Materials
- Any person who controls property where pesticides are stored is responsible for securing the container. No Food allowed to be stored with pesticides!
- Storage Posted for Warning and Danger products.
- Registrants labeling need to be on all containers that hold or have held pesticides.
- All lids and tops are securely fastened.
- Service container label needed for transporting pesticides in secondary containers down a public road to another site.
- Empty containers need to be properly rinsed.



Storage Sign Requirement

- Pesticide must be locked if unattended or attended at all times. Line of sight
- If “WARNING” or “DANGER” products are stored, the storage area must be posted in a manner similar to this.
- Readable from 25-foot distance



Pesticide Container Disposal

- Like the pesticides themselves, not all containers can be disposed of in the same way.
- The labels will indicate if there are special procedures/instructions on how to dispose of empty containers.
 - May require different PPE during disposal – respirator, apron, etc.
 - Recycling options for plastics – check with your waste disposal company for guidelines
 - Bags/non-rigid containers often can go in trash

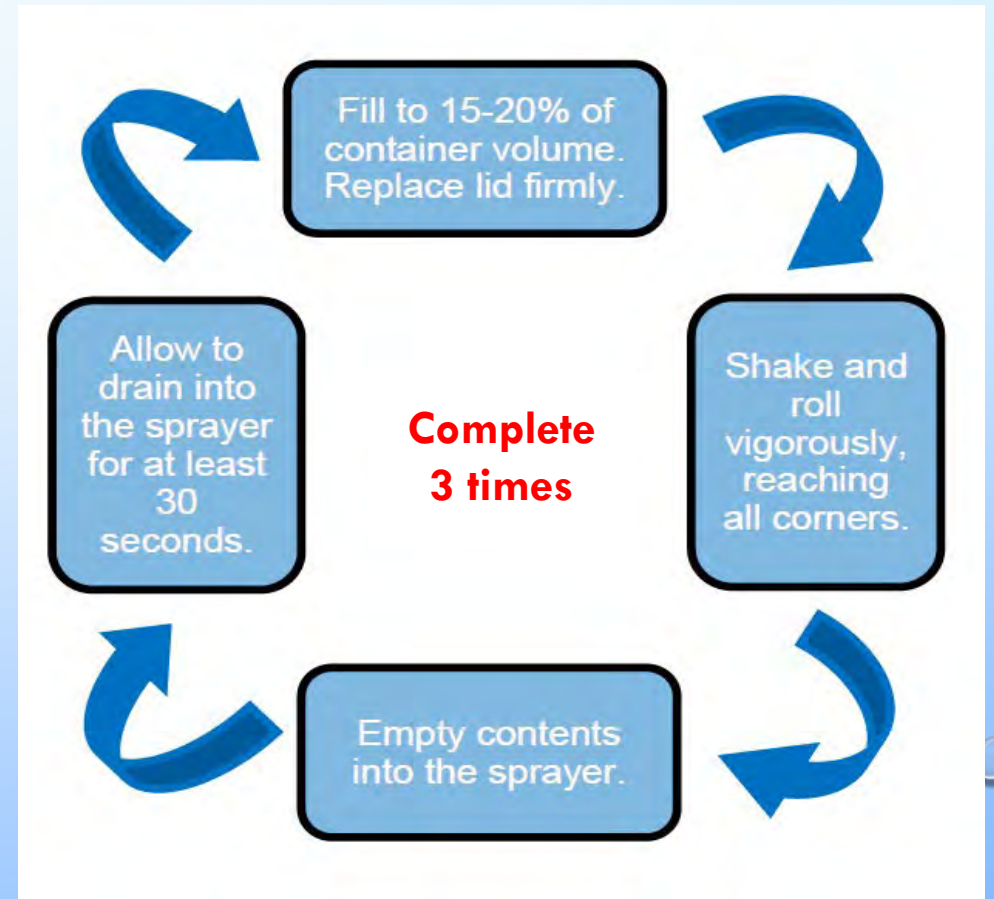


- Larger containers may have special instructions
 - Return to manufacturer/vendor



How to Rinse a Pesticide Container for Disposal

- All containers that have held less than 28 gallons of liquid concentrate must be triple rinsed
 - Fill container partially full with water (1/5 full if container is 5+ gallons)
 - Cap and agitate for 30 seconds
 - **Pour rinsate into sprayer** and allow to drain for 30 seconds
 - Repeat two more times
- Puncturing the container is recommended
 - *Unless directed by label*
- Code section - 3CCR Section 6684



Our Next Recycle Event

- October 21, 2023, from 8:00 AM to 2:00 PM at EdCo in San Marcos.



FREE

Pesticide Container Recycling

(Containers which have held pesticides, adjuvants, and surfactants)

*Reduce Landfill Waste * Prevent Pollution * Improve Safety * Be Environmentally Responsible*

Saturday, October 21, 2023

8 a.m. to 2 p.m.

Disposal of Pesticides

- When to dispose of pesticides?
 - Old, unused, no longer used, banned, etc.
- Must be disposed of in an **appropriate manner**.
 - Through a professional disposal service – not down the drain!
 - The labels have directions on to dispose of product
 - Some rodenticides maybe be disposed of in trash



Disposal Options

- Professional disposal services
 - Contact suppliers/dealers for disposal service referrals
- Our department events – none planned for the rest of 2023
 - May have event in 2024
- Professional disposal services
 - SD County Department of Public Works – small business waste disposal
 - Contact number (858) 694-2456
 - https://www.sandiegocounty.gov/content/sdc/dpw/recycling/hhw/chd_hhw_smallbus.html

Small Business Hazardous Waste Disposal

Small business disposal options are available upon qualification as a Very Small Quantity Generator (VSQG). This service provides affordable, safe, legal, and convenient disposal of hazardous waste for businesses that generate:

- Less than 27 gallons, or 220 pounds, of hazardous waste per month.
- Less than 1 quart, or 2.2 pounds, of acute hazardous waste per month.

For more information, please call 858-694-2456.

QUESTIONS?

PESTICIDE REGULATION PROGRAM

SANDIEGOCOUNTY.GOV/AWM

9325 HAZARD WAY, SAN DIEGO

151 E CARMEL, SAN MARCOS

PRP.AWM@SDCOUNTY.CA.GOV

858-694-8980



THANK YOU for participating in
**Agricultural Stormwater
Training**

June 27th, 2023

2:00 – 4:30 PM Presentations

4:30-5:30 PM Q&A Session

*This is a recorded webinar.